

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

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FIGURE 1A

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FIGURE 1B

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10621	ttttaagaca	aaagataaat	actatgtatg	taaaaatttc	cttttcagaa	tctttgttct
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10741	ttcttaatgt	gggactgact	gatgattgtc	ctagaactgt	ttcagtgtta	actacattct
10801	attaatgtta	ctttaaaaca	ttatttaatt	aaagaaacat	gaagtggcaa	catactgatt
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FIGURE 1C

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13201 atttgtagga agcttttctt aacctcttcc caagtccatg tttgatgctt cgtcttgtg
13261 cttttgtaga atcccagagt ttaccttggt ttactcacta tatcgtattg tggggtttt
13321 ttgttaatag gtatttcttt ttctctaga cctgcactgt tcagtcatac tttctgtgat
13381 gatggaatg ttcagtgtcg tcttaatatg gtagacagta gccgtatcta tgtggctact
13441 gtgcacttca aatttgcata gcaggactga ggaactaaat tttatttcat ttaattaat
13501 ttaaaaaata ctagcctgat ggctagtggc tgctttaatc agtgagttc tagaccctt
13561 caaagtcaag agtgtgtggg attcatactt attctctcgt tgcttaacaa taatactgtc
13621 taatacttaa atgactgaat tctttttcgg tactcttagt ctgcatagtt ataactcacc
13681 tagaatatgg cagttttgtt ctctagattt ctgtctttaa ccatggcttt tcagtttgtt
13741 ttcaagatta tgttgattta cacagcactg agttcttcag tccgtcgaag ttagcgtttt
13801 ggttgatgt ggtggctggc atctgtaatc ccagcaatat gggaggctga ggcgggacga
13861 ctgctgaag ccaggacttt gagatcagcc tgggcaacat agcagcccc tgtctctaca
13921 aaaaattagc tgagtgtggt ggcattccca ttagtccca gctacttggg aggtgaggg
13981 cgggaggatt gcttgaaccc agttcacggc tgcaagtgagc tatgatcaca ccactgcact
14041 cctgcctggg tgacagagca ggagtcaccc tctcaaaaaa aaagtgtatt ttttccctt
14101 taggactgaa aaaattgggt gttacaagat tacctcaagg actggtctga gaactgggga
14161 tggtaaggaa gaaactcaag tgccagcct ctggtttgtg ggggtaggtg ggcaatttct
14221 gtttcaacca aagcagttct acttcaataa ttaatatatt ggaattgtgc ttgggatttc
14281 atttgaggg gaaaaaagtc ttctaataca taacactgtt aattgaagag acaaagcatg
14341 catatggcag cacgtgatta accaccaaa gggataacag atcaagaaga catgggaagt
14401 tgttatggg tagtgaggtc ttgatggaag ttaaggttta atttaggtag gtagaaggaa
14461 gacaaaagga tgtaataggc agtgggaata gaatttgcaa agaattggag ttggaaatc
14521 atatgttagt tttggttaag aaacaatgag ctgattatag ttgagcaaat tgtatgaaat

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FIGURE 1D

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14581 aaaatttgac aaaattagat gggactggat thtagggaaa agtगतaggc tgacaaaaag
14641 tgcactttat attgcatgca atgagatgaa atactcgag gtattttggt tgttacaaa
14701 atggaggaag aggacactat tagcatttaa tgagaaagga tcagggaagt cagccatccc
14761 acaatgttca ggacagtttg cacatttaag aattgttcca aatcaccaca tgacctagaa
14821 tgacttgctg gactttgatg atgtaggtta aaaaaaaaaa gtgatcataa tggatgtagc
14881 atagacagta actccatttt gtgtatgagg cacttttttg ttgtttgtgt tgtttgtgtt
14941 gttgttgttg ttgttttgag acggagtttc gctcttgttg cccaggctga aatgcagtgg
15001 caccatctag gctcactgta actgaggcac ctttaataata cactaagatt ttcaggaatt
15061 cagttaccac aatattggag gaatgttaaa gtttttgttc agaactttat caggagtact
15121 ccacccttt agaaaatcac gtaattgatg gcagtgtcac ttgtgctgta ttggtgacgc
15181 aaatactctt cagtctgcag ttgtaactgc cacagtcaaa gtgcttggtg tatatatgta
15241 caaagtacca tcagtgtgtt attttattata gtaatagcct aaatattata aaattgcact
15301 aaggtagatt atctctgaat tacattttatt ttttattttt atttttgtga cggagttttg
15361 ctcttattgc ccagggtgga gtacaatggc gtgctcacca aaacctctgc ctcccgggtt
15421 caagcgattc tcctgcctca gcctcccaag tagctgggat tacaggcatg tgccaccatg
15481 cccggctaatt tttgtatttt tattagagac gggggttttc catgttggtc aggtgtgtct
15541 tgaactcccg acctcaggtg atctgcgcgc ctggcctcc caaagtgtcg ggattacagg
15601 catgaaccac tgtgcccagc ctctgaatta catttaagggt tagtatagag aatgtacaaa
15661 atagttgttg taaaaaggag aaattgattt ctgttttcag tattggaaga ctgggttatt
15721 cagatgaaaa caattaaaaat tcttggaac agtattaaaa aaaaaaaaaa aaaaagaaaa
15781 cgtagagcag ttgcagagct gaaaagatag tggggagctg ccaggccaaa tcttaggaat
15841 aaacaagaat ccaataaaat aagtggatga agtagctttt gccctaaagg cagtgtccaa
15901 tctgtacaag ttgggctttg gtttttgttg accattgggg tgaagaggac agaatcaag
15961 tcctagagtt catctaaagt gacagtcaaa aagaataacc tcagttttag atgggacccc
16021 agtgactcta tcgttaggtt aagggtgaaa caactgaact gtctacacac tcccatatcc
16081 atgtgattgc aggggaaggtt gaatggagca ggaggaggaa aaggaaatta agaaaaataa
16141 accttcaag ttgtgaccac agtttttagc ttcacagtga tttgccttga gggtttgctc
16201 tgtctgggtg gtccaggac cctccatgat aaatgacct ccagccattt atcatggtta
16261 ctggtttcag actagtatta cttccatggc ctggcagatg gaaaggcaaa tcacgtgtgg
16321 agaaaggcct ttcattctag ggaattgctt ccagtaattt ttcaaggaca atgaacagta
16381 cattgtcaca agtaatcaaa catagtaaaa ataaaaaaat tagcaagcaa aattacctga
16441 gagatatata atatgtaata tatatgtaga attctttcag caatgtaatt aaaatttgtg
16501 tgggtttctt tatgtatata tacctaaaaat tacgttttta cagaggaaaa ataataacca
16561 agcatgcac caattggcac tgtgaataag aagagagcag aaacagatct ataaaatctt
16621 caaatgttgc aaatatcaga tggatttaaa acaatcactg ttaaatttaa agaattggag
16681 acaaaactga agaacaaaag actcttataa agtgacttag ggccaggcac ggtggctcac
16741 gcctgtaatc ccagcacttt gggaggccaa ggaggcgga tcacctgagg tcaggagttc
16801 aagaccagcc tggccaacat ggtgaaactt tgtctctact aaaaatacaa agattagcca
16861 cgtgtgtgta ggtgcacctg taatcccagc tgctcaggag gctgaggtgg gagaatcact
16921 tgaacctggg aggtggagat tgtagttagc cgagatggca ccactgcact ccagcctggc
16981 ctataagagt gaaactgtgt ctcaaaaaaa aaaaaaagtt actttggttc atgcctgtaa
17041 tcccaatact ttgggagact gaggtgggag ggtcacttga ggccaggaaat ttgggacccg
17101 cttgagccca ggagtttgag gctgcagtga tgtatgattg tgccacactg cactccagcc
17161 taggcaacag aatgagaaac tgtctcaaat aaaggaaaaa aaatggctgg gcacggtggc
17221 ttatgcctgt aatcccagca ctttgggagg ctgaggccga cagatcacga ggtcaggaga
17281 ttgagaccat cctggctaac acagtgaaac ccacactcta ctaaaagtac aaaaaattag
17341 ctgggcatgg tggcaggcac ctgtagtccc agctattcgg gaggtgagg caggagaatg
17401 gcgtgaaact gggaggtgga gcttgcaagt agctgagatc gcaccactgc actccagcct
17461 ggggtggcagt gcaagactct gtctcaaaaa agaaaagggg gggaaaaacc caacttaata
17521 gatttgcaaa aaaccaataa gaaattccag aagtgaacac tttaaccaat atacctaa
17581 gattatgcct agctgaagaa agagttcatt gcctgggaga caaggcagaa gaaactgttt
17641 agagtgtagc acagaataaa aaagaaaaata ttgaagagag gtaagagac atggaagaca
17701 gaataagatc taatttcttt aatcagagct ctggaaagag aggagaaaga atggtacaga
17761 agtaatatatt caaaagatat ttctggctga aaattttata gatccaatga gaaaccagtt
17821 gattgattta agaaggttta tgaatttcta gcaatataaa tagaaatcta caccagaca
17881 aatcatagga aaactgcata aaccagata caaggagaaa agtcttgaaa gctgacagag
17941 agaaaaaaag atgtttttca aagaagcaac tatggactga tggttgactt ttcaatagaa
18001 aattacatat attctcaaaa taactgccaa tctagaattc tgtaattagc aaagaattat
18061 ccctctacaa tgagggtaaa atacttagtt gaacaaactc catcagctct ttctaaagga
18121 aattatgaag tatacattaa tacttaaggc agaaagattc tagataaaaag tctgaggtgc
18181 aaaatggaat aaagagcaaa gagagtggca aatatgtgga tgtattaaaa gaaacgttga

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FIGURE 1E

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18241 ctgtataaag tactagtaag accttaatta aaatatgtga caagaagctg ggcattggtac
18301 tttgagaggc tgaggcgggc agattgcctg agcccaggaa tttgagacca gcctgggcaa
18361 catagtgaat tcccgtctct acaataataa taaaaattag ctgggtgtgg ttggtgcatgc
18421 ccatagcccc agctactcag gtggtctgag tgagaggatc gcttgagccc ctgagacctg
18481 ggctgcagtg atccttggtc gtgccactgc acaccagcct gggcaacaga ctgagacctc
18541 gtctcaaaaa aaatatatga caggcggaag cggggttcta agacctttgt attgtcagag
18601 agaaaggtag aaagtattaa ttgacttgac cttgataaat tatatgtttt aatttctttt
18661 tttttttttt tttttttgag acggagtctc gctctgttgc ccaggctgga gtgcagtggc
18721 gggactctcg ctcactgcaa gctccgcctc cggggttcac gccattctcc tgcctcagcc
18781 tcccaagtag ctgggactac aggcgcgcgc cactacgccc ggctaatttt ttgtattttt
18841 agtagagacg gggtttcacc gttttagccg ggatggtctc gatctcctga cctcgtgatc
18901 cggcgcctc ggctcccaa agtgctggga ttacaggcgt gagccaccgc gcccgcccta
18961 tgttttaatt tctaagttat cttctaaaaa tgtagaaacc agacttttaa cttctcaacc
19021 aacagaagat acaaatgat taataaaaa taatcctgaa gaagtgaaga aaagaaagaa
19081 ccagtaggac aagtagcaca aagatgggtg gatttaaate taaacatatc accagctaca
19141 ttaaatacaa aatggattaa attattcagt taaaagccaa agattgttac actgaatttc
19201 caaaaaaatt cagttatatg gggtttataa ggaacatata tgaaacctaa gaataaagaa
19261 gatcaaaagt aatcatcaca ataagacata ccatgcatat tctagcagac agtatggtac
19321 agttaatatc aaagggtggc agtaaggcag aaagcattat tggcagaaga gtcacctcaa
19381 atgataaaat gaccaattca ctgtgaagat ttaatagcct tagtaataata gtataacctg
19441 taatatagct ttagaatatt tatagcaaaa gttaaacaaa actacaagaa atagacagat
19501 ttctcagctc taatggggtg ttttttaaca gctctttaag taactgggat aagaagcaga
19561 cagggttagtt aggatataaa atattttgtat aacacaatga acaagtttaa cccagtggtt
19621 gtatagaacc cattctaccc aacagtggca ggctacacat tcttttcaag catgtaggat
19681 tttgggggga aaattgactg agtaataatg ttgtaaaaca agtttcaaca aatttcaaa
19741 gattgaaacc aaaaaagcat tttttctgtt ccattttcat taaagatctc tatcaatagg
19801 gtaattttta aagcttcatg ttagaaattg agcaactatt aatacttgga aataatctgg
19861 tcaggcgtag tggctcacac ctgtaattcc agcactttgg gaggcgaggg caggcgagat
19921 acgagggctg gagttcgaga ccagcctggc caacatggtg aaaccccgtc tctactaaaa
19981 atataaaaaat tagctgggag tgggtggtgca tgcctgtagt cccagctact tgggaggctg
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20101 tgcactccag tctgagagag cgagactccc tctaaaaaaa ataataatcc atgcatcaaa
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20221 gatcaaaatt cacaacttga tatattctag accattgaaa gtgagagaaat caaatgttat
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20581 ttcttttcac aaaagatttc tctgtaccag cgcagtcttt ctggtagcat ttgaaccaca
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20761 tcagcaagag tagagttcat gtcaagaaac cacttttttt actcatccat aagaagtaac
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20881 actcctaaat gtagttcttc tgctgcttct actacaccta cagttccttc ctccattgaa
20941 gttttgaact caaagtcata catgagggtt agaatacaact tcttccaaac tctgtttaat
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21121 ctatggcggc tatagcccaa tgaaaggtag ttcttaaata aggaatgttg aaagtcacaa
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21361 caaactatgt tgtaaaagaa tatgctgtca tccaggcttc attgttccat ttacagagca
21421 cagacagtaa attttgaga attccaaagg ccctaggatt tttggaatga taaatgagca
21481 ttggcttcaa cttaaagtc ccagctgcat tagcctctaa taagagtcac cgtgtcctag
21541 gccaggcggt gtggctcatg cctgtaatcc cagcactttg ggaggccgag gtgggaggat
21601 cactgaggc cgggagttca agaccagcct ggccaacatg gagaaccctt gtctctacta
21661 aaaaaataca aaattagcca ggcattgttg cacatgcctg taatccagag tactcaggag
21721 gctgaggcag gagaatcgct tgaacccggg aggcagagggt tgcgggtgagc cgagatcatg
21781 ccattgtact ccagcctagg caaaaagagc gaaactccat ctcaaaaaaa aaaaaaaa
21841 aaaagtcata ctgtcctttg aagctttgaa gcccaaccatt gacttaggga aatgttgttg

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FIGURE 1F

21901	ctgggtttgat	cttctatcca	gataactaaa	actttcttta	tatcagcaac	taggttgttt
21961	tgcttgcttg	cttttcttaa	actatttttc	ttttaattct	tagagggtct	cactgtgttg
22021	gctaggctgg	tctcaaactc	ctggcctcaa	gcaatcctcc	caccttgccc	tctgaaaatg
22081	ctgggattat	aggcatgagc	cgtagtgccc	ggcctgtttt	gctttcttat	cattcatgta
22141	ttcactggag	tagtgcttgt	agtttccttc	aaaaactctg	cctttgcatt	tacaatctgg
22201	ctgttttgga	caagaggcct	gcctttcaac	atgccttctt	cactaagctt	aatcatttct
22261	agcttttgat	ttcaagagag	agacatgtga	ctcttggttt	cacttgaaca	cttagaagtc
22321	attgtagggt	ttttaattgg	cctaattttca	atattgaaat	ctcagggaat	aggaggccca
22381	agaaggggtt	agggcagtag	ctggctcagt	gagcagtgag	aacacacaca	acattttactg
22441	aagaagttca	ctgccttata	tgggtgtggt	tcgtggcacc	ccaaaagaat	tacaatagta
22501	acatcgaaga	tcatagaaca	ctaaaataga	cagcataata	atgcagaagt	ttgaaatact
22561	atgagaatta	ctgaaatgtg	acagagacat	gaagtgaaga	tatgctgttg	gaaaaatggt
22621	gccaacagat	ttgctcgatg	ctgggttgcc	accaaacttc	agtttgtaaa	aaacaaacaa
22681	aaaccattat	ccgctaagag	cagtaaagca	aagcacaata	tgatgaagca	tgctgtgaca
22741	gtttatactt	cacagtcatt	ggttaaattt	actcattcct	ttaaagcata	aaaataaata
22801	tttagcacct	ttgtgctgag	ttgtatgcta	ggcactggga	tatagaaatg	aatgatagtt
22861	tgtcttcaag	gagcttacag	ttaagtggta	gaagttagata	aataaagaat	taaggacagt
22921	gtactgtgat	gaaagtgtgc	cccagatgca	gaagaatcac	agaaaaggag	cacaattcaa
22981	tatgctttta	ggggatggaa	gacagatttc	ctaggaaagg	agatacttaa	actgaatttt
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23101	gaccaccta	ataaatggta	cataccctgt	actgagtgtg	gattggaaga	ctgagtatgt
23161	taaaaatggt	agtattttct	aaattgtag	tggatttatt	gaaatccaaa	tgcaatttcc
23221	tgtaggtttt	tctatggaa	ctaacaacct	gattcaacaa	tttctgtgga	agctttaaag
23281	aggcaagaat	agccaaaata	tactttaaaa	acaataagg	aggaagactt	ctttaattcc
23341	ttttccact	cggaatatt	ttaatgctct	atggtaggca	ctgctcatcc	tggttattac
23401	ctttgtgaat	gtgagatctg	gctcccaccc	aaagctcaca	ttcagatcca	cttgtagtgg
23461	tatctagggt	tttgaataga	acactttcct	aaatacaggt	taagtactgg	gactaccaac
23521	aaacaaactt	acaacactaa	ttttattatc	tcataattgt	atttacaatt	tttcttgatc
23581	atattttttc	atacaaaact	taattagttt	ctattaattt	cttttaacat	aggaagctta
23641	gaaatagaca	cactttgctt	ataatagatc	tttaatatta	tgtcagttgg	actatggctt
23701	tgttagaaaa	ggagaggaga	atctactgct	gagtgtgtgc	caaagagcag	ttaccaact
23761	gagcagagag	ggaggatgac	cttgagggtc	tcacaggcat	gggtttttag	gcccagcctg
23821	tggagcgtct	gagggactta	taaaaggaaa	agggaccag	gtgcagtggc	tcatggctgt
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24001	atggtgcacg	cctgtaatcc	cagggtactc	ggaggttgag	gccaagaat	cacttgaatc
24061	cggtgggtga	aggttgtggt	gagctgagat	tgtgccattg	cattctagcc	tgggcaacag
24121	agcaagactc	agtcttaaaa	acaaacaaac	aagcaaacag	aaaacaacag	aaagaggaga
24181	tgaataacaa	aatggcaggt	aatactaaat	aatatggatg	aattttatat	ctttacatat
24241	gggtagggtg	agggacacct	gctctgtgg	cagattagtt	gggaaggat	accttgcctg
24301	gaacaatgcc	taccatatta	aataaatgaa	gctagacttc	cccatctgtt	atgcataaaa
24361	atcaatttct	tgtagggtta	agattcaata	caaaagggga	aacctgaaa	gcttttagaa
24421	aaataaagg	acattattta	aggcagagaa	gaatttctta	agactcaaaa	aactagccat
24481	aaaaaatgga	caaatttgac	tacattgaaa	atagaaaactt	ttttcattaa	gccccattaa
24541	gacactcaaa	aggcaaggca	aggaatagaa	gatacttata	acacacacta	ttgattatct
24601	attgttgtgt	aattaccgaa	gacttagcag	tttgaataaa	catttctctc	acagttctgt
24661	gggtcaggaa	actgagagt	gcttaattgg	atgtttctgg	cttagggcct	tgaggctgta
24721	atcagtcagt	ggctgcagtc	atttgaaggc	ttgactgctt	tgtgctccct	catgtggatg
24781	tagcaggcct	cagagctggc	tttctagaag	ggagtaagag	aaaacaccca	agatggaaac
24841	cacagtattt	tagtcttggg	agtggcacc	catcatttct	gccatattct	ttttgttaga
24901	agcaaggcaa	taactccagc	ttacattcaa	ggggagtttg	tacaaggcac	caccaggagg
24961	gtgaggatca	ttgggagcca	gttttagagg	tacctactac	aacatgtaaa	gaatgaactg
25021	gtatgaaaaa	tatacataaa	aaattcctat	agatttctaa	gacaaagaca	gaacacaaaa
25081	ttggaaaaag	ggcaaaaaat	cctgagcagg	catttgaatt	aaaaaaaaat	ttaaatgatt
25141	aataaacata	tgaaatgacc	cttaattctag	ttaaacaatta	gggaaataga	aattaaaacc
25201	acaatgagag	accatttcat	atagattggc	agaaatgaaa	aaatctgaca	atattaaatg
25261	ttggtgaggc	tatgaagcag	tctgaactgt	cttccactga	tggatgggaa	tgtaaattgg
25321	ggggaaaaat	cctttggaaa	ataataggat	atcctataac	cagcaatacc	actcactctt
25381	aggcggttgc	cctagactaa	tggttcttga	gtatgcatca	aagtcactct	gagggtctgt
25441	taaacccagc	tgttggggct	acccttagag	tttctgatta	agtaggaatt	gggtggagcc
25501	tgatagtttg	ctttgcattt	ttacaagtt	cctgccggga	gtgggctgag	gggtgggggg

FIGURE 1G

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25561 gtgggatgtt ggtgctgctt gtccaggaat catactttga gagtcagcca ttgctttaga
25621 catagagaaa tgtgtgaata tatgaagtag gaagcatata tataagattg ctcataacag
25681 tattattcat attaacccca agatagaaaa aaagttcaag tatcctcagt agtgcagtag
25741 atatcattgt gtgtttactt atggaacaaa aaactagttc aaatagctaa ggaaaaaaac
25801 cacactacaa acagctcctg cctgcatcaa tatgtatgaa tctcacaaat acattagtca
25861 taccttagaa ccaagtcaca aaagattaag tgcaacatga ttctattcgt aaacagttta
25921 aaaacaaatg cagttaactg tattgttttag gaatacaaat ataggtacta gaattataag
25981 tagagatact agaattataa gaaaaatcaa gggaaataatg atgataaaag tgagtगतag
26041 tgactacctc agggaggaga gaaagtggat gtgattaagg acaaatggga gacttttaag
26101 ataattggca atgctatttc ttaccttggg ttgtgggggt tgctttacag ttatgcttta
26161 atggaacgat gttttgcaaa ctctctaca tagctttata ataaagggaa aatttatctc
26221 atttaatttt catctctgat tactagttag gttgagtatg ttttcattag ttagcctttg
26281 ggttttttct taaattgttt atagacatgc cattttaga ttatgctatt tgtttttaga
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26401 ccttctagtc cttttttatt tgtattttta tttattttta tttctttttt aagaggcagg
26461 cctccactc tattgaggcc taggctatgg atagtcttct ttatccatca tgtcaaatat
26521 ttccctctag tcctttttta ttgttatttt tattttattta ttttttttaag aggcagacct
26581 cccactcctt tgagaccag gctggagtgc agtagtgtga tcatagctca ctgcagcctc
26641 ctgggctcaa gcagtcttct agcctcagcc taagtaactg ggacaaatgc acaccactgt
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26761 ctggtctcga ctctggctt caagtgatcc tcccaccttg gcctcccaa gtgctgggat
26821 tacagacgtg agacactgtt cctgccttag cctttcctta taaagacata tgttgttgtt
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27001 actttgggag gccaaagtga gcagatcatg aggtcaagag attgagacca tcttgcatg
27061 gatgaaacat ggtgaaaccc catctctact aaaaatacaa aaattagctg gacgtgggtg
27121 tgtgtgcctg tagtcccaga tactcgatag cctgaggcag gagaattgct tgaaccggg
27181 aggcagaggt tgcagagct gagattgtgc cactgcactc cagcctggcg acagagcaag
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27361 tatttaagca gtctagtatt tgttatatga agatgtcttg ggggatgtta ttttcccaac
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27481 ctaccagatt ccatggacc gatttctggg ctacttctta acctgtttgt ctataacctg
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28681 ttggctgtta taaaaaagac aaaaaattaa aaatgctggt gaagatacag aggaagaga
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28921 ggaatcagtt caacaacaga agattgggta aagacaatgt ggttgtatag catccgatg
28981 aatgctattc agcgttaaaa aggaaaaatc ctgtcatttg cagcaacatg attggaactg
29041 taggacatca cgttaagtga aataagccag caaaagaaag ttaaaccctg catgttctca
29101 ctcttatgtg gaagctaaaa agagttgatt tcatagaagt aaaaagtata acagaggata
29161 ctggggctgg gaatagtagg ggtagagtgg aagctctggg gagatttatt catggataca

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FIGURE 1H

29221	aaattacagc	tagataggag	gaataagttc	tagtgttctg	tagtagtata	gggtgactat
29281	agttaataat	atatagtttc	atatagctag	gaggaggata	ttgaatattc	ccaacacaaa
29341	gaaatgacga	atgtttctcc	tgtcttttagt	gagaatgctt	ctgttatgct	tggtgactta
29401	cagacttttt	atagataccc	tatatgaagt	ttaagaatgt	ttcttccatt	tctagtttgc
29461	tgacagttgg	gcatttttta	aaatcctaaa	tggttggtga	atttttaggt	atgtttttcg
29521	tacattttatt	gaggtgatca	tgtttttttc	ctacattgat	ctattttagg	aagtaattgt
29581	attggttagac	ttcctagttt	tgagtaagca	actcttgtgt	cactggatac	attttattgt
29641	atattctttt	aattgattgt	tgaattagggt	ttgcctaatt	caggttttta	tttagggatt
29701	ttacgactgt	gtttacaagt	gagctcagtc	tatacctctc	tgagctgttc	catggttttg
29761	gtatcaagag	ctgattcgtt	ttctagagtt	ttctgtgatt	ttggccagtt	tttatatcag
29821	accaaagaaa	atgtttctcg	aaagtaagtt	cattaggctt	taagtaacca	ctgggccccat
29881	tctttgactt	tcaacttttc	tgagttaggt	ttagatgtgg	atgttatata	cagcattttgt
29941	tcagggcctt	ggtttgtgag	ctgagtttct	ttttttattt	ttttaataga	tgagcttatc
30001	tcattttatat	tttgttgata	aggcagttct	tccacattat	taattatatt	tttctttggg
30061	ggctttgtct	cttatgggta	tgtgtgtgtt	tcccactctaa	tagtttttga	tgatttttta
30121	taaactcttat	tctcttacta	ccttcataga	tttaatatct	gtaagcctcc	atttcttgat
30181	ttgtgaaaat	aatcaggact	attttaactc	cttgctaata	aaggtaaaga	aactcagtaca
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30361	gttacatggt	tgaatgggat	taataattcac	ctttaattct	ttaaaaccat	gacttcttga
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30541	tggccttcat	ttctgaagtg	gtctttttat	taccttccat	ttctttcttg	aacctgtga
30601	actcactttt	catttccctt	ttcttttttt	tgagacaggg	tctgggtctc	tcactcaggc
30661	tgaggtgcag	tgttgtgatc	ttggctcact	gcaacctctg	cctcctgggc	tcaagccatc
30721	ctcccatctc	ggcctctcaa	ttagctggga	ctacagacat	gtgctaccac	acctggctaa
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30841	cgccctggcc	tcccaaagt	ctgggattac	aggagtgagc	cactgcctcc	tgccctcatct
30901	cccatttcat	ctgttcttca	attttgtttt	ttcagtcatt	tttttccctt	aaaatgcatt
30961	tgatagtgat	agatggggat	atatcagaga	cttcttttgt	ttccttgact	aaactctggg
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31081	ggtgtggcgg	gtgggggtgt	taacgtttct	cctcatagac	cctttgctgg	attgtttctt
31141	tttattactc	atccttgttg	tctttgagta	gagtacttct	atttgagcct	gctctttgct
31201	taagaatggt	atggggggct	gggcacagt	gctcacacct	gtaatcacag	cactttggga
31261	ggccgaggtg	ggcagatcac	gaggtcaaga	gatcgagacc	atcctggcta	acatggtgaa
31321	accccgctct	cactgaaaat	acaaaaaatt	agccaggcat	ggtggggggc	gcctgtagcc
31381	ctagtctact	aggaggctga	ggcaggagaa	tggtgtgaac	cctggggggc	gagcttgcag
31441	tgagctgaga	tcgcgccact	gcactccagc	ctgggtgaca	gagcaagact	ctgtctcaaa
31501	aaaaaaaaaa	agaatgtta	tggggaacag	cagggagaat	aagcctaagc	aggcataact
31561	tttttctcag	acatcttgtc	tcagaaagct	cgttcaccaa	atctgtttgt	ttctctaccc
31621	tgggaataca	tcactcctcc	atttttaatg	tcctttttcc	ccttctgccc	attttgggcc
31681	aagccaatca	ttcagtcagg	atgaagactc	catccaggca	ggagatgggt	gaggctgata
31741	gtgaagtgtg	acatcaaata	gattcctgtt	cgatgatttg	atttttaatt	tgttctgtct
31801	agctgccttt	agcttttaac	cttttatatc	ttatgttcaa	tagttattct	cacaaaggaa
31861	ctggttccca	acataaaatt	aaaattaaaa	gtgatcagtt	ctctcctcta	gcaaactgta
31921	actgctttta	ttttatgtga	cttgatctga	tgtattgttt	tgttccctgg	atcatttagg
31981	ggtggggaag	taaagacag	gaggtctgtg	tttcaactta	aaaacaaaat	ctaaaccaga
32041	taaaaactcg	taaaatgtca	tatttcagggt	cctctgtgat	cttgcccttt	cctacctctc
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32161	tcctaaagtt	tatattgtgg	atactgaata	ttcaaagtgt	tctcccaaag	ataggttcca
32221	tagtttacaa	ttttgggaaa	ctttaaatgt	tcctccttgt	ctaacctgtt	gagtttctaa
32281	gctcaaatga	ggggggatac	tgtgtttatc	aaatcttatt	tgattttctgt	atttttacata
32341	ttaaaggatt	catctaaaaa	gtactctgaat	tgatttggtg	agcaggtgat	acctgtact
32401	atattatata	gctccccctt	tgggatttca	taattggata	ttagcatagt	aatgggtgag
32461	aagaactgta	gtaaagaagc	ttacctttgt	tgattttatt	tttttttttg	acacagattc
32521	tcgtctctc	accaggtctg	gagtgcagtg	gcacaatctc	ggctcactgc	aacctccacc
32581	tcctgggtct	aagcaattct	gttacccttc	caagtagttg	ggactacagg	tgtgtgccac
32641	cacacctggc	taattgtttt	taaatatatt	tagtagagat	ggggtttcac	catgttgccc
32701	aggctggtct	tgaactcctg	acctcaaatg	atccacctgc	ctcggcctcc	gaaagtgcgt
32761	ggattacagc	attagccact	gcacctggcc	ttacctttgt	ctaaattaga	attgtataaa
32821	cttccttgac	tatggaaacat	tgcttgtgtg	tagtatatgc	taatattctt	tgaaacattt

FIGURE 11

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32881 tagggaaatg ctgtttaata ccaatcaaat ccttgcaattt tttcagggtt gtttcctggt
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33001 ttttttcaa tggtttctga ggtgatactt accctgctgg gaggcatttg gaaatatttt
33061 gattgtcatg cctggaggat gctatttggg attaatgcc ctcaaatcga ggaacacaat
33121 gcactaaaag tcctacacag caaagaattg cccacccaa aatgccactt ctacagtggc
33181 cctccatata tgcaagttct gcctcctagg attcacccaa ctgcagatca aaagtattag
33241 gaaaacagta aaaagtaata caataatata aatacaagat aatacagtat aacaactatt
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34381 tagatattta ttggctgaca gaagaatatg tatcattagg tgtttaaaag atagtcattg
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36301 gcaataatgt tttcttcagt atgaagtttg agatctgttt gtaggaatta attttaagtc
36361 acttgtccat tctataaggt ttagttaaaa cttggtaaca taatccatac gtttacttaa
36421 atcaatatat gtgagtcata gtatgtcaca atgagataaa tgcaagagga gagccactgt
36481 caagtgttct gcagtatgga atgcccagcc ttcagcagac ctcttgacta tatgtgtcac

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FIGURE 1J

36541	atctctgata	ctaaccctaa	gttaggggtgc	ctgtgtaaat	attaaatgct	gaggccaggc
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36661	tcaggagatc	aagaccatcc	tgactaaaca	cagtgaacc	ccgtctctat	taaaaacgca
36721	aaaaattagc	caggcatggt	ggcatgtgcc	tgtagtccca	gtcacttggg	aggctgaggc
36781	aggagaatca	cttgaaccca	ggagggtgca	gtgagctgaa	atcatgccac	tgactcttag
36841	cctggatgac	aaagcgagac	tctgtctcaa	aaaaaaaaa	aaaattaaac	gagcatgggtg
36901	gcatgcatct	gtagtcccag	ctacttgggt	ggccaagggtg	ggaggattgc	ttgaacccaa
36961	aagtttgagc	ctgcggtgag	ctgtgatcac	actactgcac	tccagcctgg	gcacagagtg
37021	aaaccctaca	tctcaaaaaa	taaatattaa	atgctgactt	tttctaagtt	tctagatgaa
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37261	tgaactgacc	tccacctaac	caactcatca	ggttaactga	tgttctccat	ttcaaaaaat
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37381	gattagagaa	tgaatgttca	ttttacagtt	ttaagttaaa	atgttttaagg	acagtgttta
37441	ccattgcaca	tgattccctg	atttaactga	ccttttcagt	taactagcca	ctagacataa
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37561	ttgtggagtt	ggaactacag	tttctctcag	cagcctgctt	atctggttgt	ttaaacttgt
37621	agctgaatta	ttatacaaag	ttttcaaact	ttctgttttg	gaatggtcag	ttactcaaaa
37681	ctgtggcttc	ctccttgcta	ccttacaggg	tagttgtgag	agttattcctc	aacaatagtt
37741	cagactctca	ttacttcttg	tctataattg	tagcatgctt	ttaatgggat	tccctgcctc
37801	cagtacctct	ctggcttggt	ggttaacata	aacattattg	ccagattaaa	catcctaaag
37861	tataatgtgt	aatcagatca	aaagccattt	ataacaataa	aaactacatt	aaaaaattac
37921	ttatgtcctg	ggcttagatg	tggtctctgc	aatcagatgt	tcattaaaca	aattatttta
37981	aaaatacata	catacacaca	cacgcaaatt	ctgaattgtg	atatgtgcca	aaagaaaaaa
38041	tgggggggtga	tgtgagagct	cagtgaggat	caaataataga	ttgggaagaa	gggtgatgag
38101	gaaagacttc	tttgagaaaag	tgagatttaa	actatctgaa	gaagctgtgc	ttagttttaga
38161	aaagtgcctag	gcaaagagtg	ttccagggaag	aaggaaatagc	atgtgtgaag	gctctgctct
38221	gctgctgaaa	ttgtggttca	gtttattgag	tatggcatag	aatgaatagt	gcctgatgag
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38761	ctcttattat	ctttgtcttc	tcctaaactc	ttactcacct	atgctataat	cataccaaac
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38881	tgttggaat	actcttactc	ccacatacac	ttaacaaaac	cctactcatt	gtttaggatc
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39001	ttcttttaac	catagtagtt	catattacta	tcacattata	gtatattatt	caacagatgt
39061	ctatgtaatt	gattatgtgc	caggtagctat	gtgtagacat	tatggatata	tccacataca
39121	aaaatagaca	cagttgccgc	atttgtggaa	actacattgt	aacacagacc	ttgaacaaaa
39181	tctgggcaca	aatatgtaac	taaagtgtta	taagaggat	gaaggaatac	ctgcaggttt
39241	ctgaaaccct	aataaggccc	ttgagggtcaa	aattattttc	ataatcctac	taagatacta
39301	tttgccctttt	cattctcggt	cttgtgagta	tgtagtagtt	ataggatgta	tgatattcca
39361	acaaattgaa	tacagaagg	gggagaatcc	agatatcttt	tgtaaggcca	gacattaaag
39421	aaattggcaa	aaaaaaaaat	ttttttttta	aagccacttt	ggggccagg	gcggtggctc
39481	acacctgtaa	tcccagcact	ctgggagctc	gagggtggca	gatcacttga	ggtcaggagt
39541	tcaagaccag	cctggccaac	atgatgaac	ctcgtcttta	ccaaaaatat	ggtagctggg
39601	tgtggtagca	catgcctgta	atccgtccct	gtaatcggaa	ggctgagagg	cgggagaatc
39661	gcttgaacct	gggaggccaa	ggttgaagt	agctgagatc	gtgccattgc	actccagcct
39721	gggcgacaag	agcaagactg	tgtctcaaaa	taaatgaata	aataaacaaa	caaataaata
39781	aataaataaa	aatgaataag	acactttgcc	ctctcattgt	ttttgttgt	tttgaaaaat
39841	gtggttattt	ttttcattaa	aaaatagatc	acttttggtt	attagttttt	ttgtcatttt
39901	aaaatgaatt	ttaaacattt	cttggttata	atttttaatg	tggtaaatag	tgaatgcgat
39961	aaactacata	gataaaagct	ttctagggtc	ctccataatt	tttaagagta	taaaggggcc
40021	aagtgtgggtg	gctaacacct	gtaatcccaa	cactttggga	ggccaatgca	ggaagatcca
40081	acatagcaag	accctatctc	tacaaaaaaa	tttaaaaaat	agccagacgt	gatgggtgtg
40141	gcctgtagtc	ctagttactt	gggaggctga	ggtgagagga	tcacttgagc	ccagagtttg

FIGURE 1K

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40201 agattgtggg gagctgtggt catgcactac attcctgcct gggctacaga gtgagaccct
40261 atctcaaaaa aaaaaattat attttttat acacacacac acacacacac acacacacac
40321 acacacacac acacatatct tatatatata taagagatcc tgaacccaaa atcagagtcc
40381 ctgtaattggg gagctgattt aaattggggg cttctggaga agtaaaagat accttatgtc
40441 tctgttaaacc acttatgttc ttctagaaat taggagtgtg gttttctccg tatttccaaa
40501 aactgcaagt ctttttatat aacgagtgtg ttggttgaat ctaattttta aaaaaatttt
40561 ttttaatttaa aaatttttta atttttaaaa atatggagtg cttcatgaat ttgcatgcca
40621 ttcttaggca agggccatgc ctatcttctc tgtattattc caattttagt atatgtgctg
40681 ctgaagcaag caccaaattt tgttatcaaa gtctactgta gatggccgtt ctttctttga
40741 tttgtggttt ggttgaaacc tttgttgtaa ataccatctt atttctatt actgtaggaa
40801 atagatctgg attcaaattc ctctgggtat gaagctggga agattactta acctgctaaa
40861 ccttaccatt atttatctgt aacatggaat acatattatc ttactgtggt gtaatgattt
40921 aatgaactaa tgtatgtgac ctgattcata agtgaccaga acagagacaa tccataaaat
40981 ggtaattctt tttattttat atacacagca catacatact ggggttagtt tcagttagtgt
41041 agcagagagg tctgtggata aatcaggata taacaatcat cattcaagga tatattcacc
41101 attcaaacag tttatcagaa ggcagaaagc cagaatgatc tattgtgtat ggttattcat
41161 ctttagaaaa aggaacagaa agtgtgggct tagaatattt taaataagta gctctatggt
41221 acaatgtaga tgatttaggg atggggtaga gttttatgtg tctggcacta cagcagtgcc
41281 tcacattttac taaatgtttg aataatatta attaactaga gattcttgaa aacacatttt
41341 tagaagcctt gaaaaagtta tatacgacag attaaaggcc aagcctgaga aagcttacat
41401 ggctaactgg aaaaaataat aaaggtagca tagaggaaaa acaaaattgc cctgtgggga
41461 gaacatgtgg tgtcatatgg tgtgactaaa taggatccag taagataaga caaggtagag
41521 catcttggga gtgattccat gtttcaagg taaaatgtta actacattaa aggtagtaga
41581 ccagtgaag aatcctcaag atcccagtg atcccaagga agaagatcaa agaagatcaa
41641 ctgttttggg attcatagca gaaagccata ggaaaattat ctttttgata ttcttttttg
41701 aagaagatag gtcctttatt tattttattt tttattttat tattttattt ctttatttta
41761 ttttattttt tgagatggag tttcgctctt gttccccagc tggagtgcag tggtgcaatc
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41881 gtgctggga ttgcaggcat gcaccaccat gccaggttaa tttttatttt tagtagagac
41941 ggggtttctt ctccatgttg gtcagggttg tctccaactc ctgacctcag gtgatccacc
42001 cgcctcggcc tcccaaagtg ctggcattac aagcgtgagt caccgcgccc agccaaagat
42061 aggtcctttt ttaagacaga tacttagggc tgggtgctgt ggctcatgcc tgtaatccca
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42361 gactccatct cacaaaaaaa aaaaaaaaaa aaagatactt tgataaagaa ataatagtta
42421 tttctcattt tatttctcat ttgagatgaa ctcaaagttg gctaaagtga cacacagttt
42481 tggacctata acttgcttac attttaaata ttaggttgggt gcaaaagtaa ttgtggtttt
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42781 taattcttgc aatatttcaa actttgtctg ttttgggtgt ctgtgatctt gcatgttact
42841 attgtaattg ttttgggggt ccacaaacca caccataat aaggcagtga acttaatcag
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42961 cctccgcatg ccctgagaca caacaatatt gaagttaggc caattaataa ctctacaatg
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43501 taagttgaag tcagtgtctc tttatcatte caaaaatcct agggcccttt ggaattctgc
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43681 aaaaaagatc cttccaaca tattactaat cgttgataat atacctgatc acccaagagc
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43801 ttgttttgag acagggtctc attcttgccc aggtctggtg gatcatagct ctctgcagcc

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FIGURE 1L

43861 ttgaacccct gagctcaagc aatcctcctg cctcagctgc ctgagtaggt gggactacag
43921 gcatgcacca ccatgccag ctaatttttt tttttttttt aatagagaca ggggtctatgt
43981 ttcccaggct agtctcacia actcctgggc tcaagtgtac ctcttgccct agtaattgtt
44041 ttcttaacca ctaacgcagc aagtatcttt tattaggcta tagctgccat agatattcct
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44161 atgatggatc tgggcaacat tcatgagagg aggtcaaaat agcaccatta acaggagtgt
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44281 ggaagaagtt cattctaatt aaatagcaaaa ataactagaa ttagaagtgg atcctgaaga
44341 aggaattgag ggtgtggtag gtcattgtaa aacttgaaga aatgagaagt tgcttcttat
44401 tgtagaccaa agaaaagtgt tttttgagat ggggtttact cctgctgaag atgctgtgaa
44461 agatgagcaa agaaaagtgt aagatttaga attttacata aaattagtgt atgaagcact
44521 cactgataaa atgacagcaa ctccaagtgt gaaagtgtt ctactgtggt tcagatgcta
44581 ggcagatttg agaggactga cagagaaatc ttttgtgaaa aaaagtcaag cggcacagca
44641 tcagaccata ttgcctggtt ttaagaaatt gccggccggg caggtagctt tacacctgta
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47401 ggtggttagc tcaattgagc ctaggagtgt gaaactagat tgcgcaacat gcaagaccga
47461 cccccccccc catctcttaa aaaaactaaa aaaaaataa tggcacaagc ttaatgatat

FIGURE 1M

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47521 taattcactg tagcactact gtatttgcac cccacagatt tagtatgctg tattttcatt
47581 cagttgaata ttgaactagc cttgtggtcc tgggattaac cttattgtca tgtttattat
47641 gccttttaca attgctggat tctgtatgct aatattttac taatgattat gaggaatatt
47701 agtatgtaat ttggggcttc catttgactc aaagattatt tagaaatgtg ctgtttaatt
47761 tccaggtggt tggagatttt cctattaact ttctatttct agtttaattc tattatggtc
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48001 tattcttact gattttctgt ctactagttc tattactgaa aggagtgtcg aagtcacaa
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51061 tgtccagacc ctgtagcacg tgcttgcagt gtccgttcaa ctagtggagt gtggaaagtg
51121 tattaagccc ccaacttgca gtggagggtta tcacttaaat tcacagcact ccaaatcaat

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FIGURE 1N

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51181 tgtcaacacc ctcacacaca cacagtctct agctgaacac atgccaacag agggagagat
51241 tggtcagtc tctgaagaag ggtatggcagc agcctcaagc aaaaatgcc aagatggctg
51301 ggcatgggtg ctcacgcctc ttattttcagc actttgggag gccgaggcag atggatcacc
51361 tgaggtctgg agttcaagac cagcctggcc aacatggtga aaccctgtct gtactaaaga
51421 tacaaaaata gctaggcatg gtggtgcacg cctgtaattc cagctacctg gaaggctagg
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51541 cactccagcc tgggcgacga gcagaactct gtctcaaaaa aaaaaaaaaa aaaaaaaagc
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51661 ggttggtttg acggttttgt ccagctttat agttgctttt gggggagagg atttatcaat
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52681 tgacaccaca accggcta at tttgtacttt tagtgga aac ggggttcacc atgttggtca
52741 ggctagtctc gaactcctga cttcaagtga tccacctgcc gcggcctccc aaagtgttag
52801 gattacagcc atgagccacc gtgtctggcc tctgtgcaat ttagtatttt tgtttttttt
52861 agtgagtga gctcctccat aatagcacta tatacaatat aattttctgt gctatgcagt
52921 atattagcca gtagctgcag tggctgggaa tgtggcctgt gagagtga aactaaattt
52981 tatattttat ttaatgttag tttatataaa attaaatagc catacatgtc taatgattac
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53161 tttttttttt gtctaaaggt taataaaggt taataaattt ggaagttaga gtaggtttcc
53221 tcaacactta agtgagtttc ttctggagaa agtgaatatt gaataataaa atccattaat
53281 ttctagttct actaagtga ctaggcagtc cttgcttttag agaatatggg tacttcttct
53341 caatatgtgt atgtgtgtag cctctgtccc tgtgttggtc agaatttact ataattctgt
53401 ctctggccat agtggtccaga cagaaatccc tgtagactga ttacctttt ccaccagggt
53461 tagatcagat acaaatatat gggggcaag actgagttac tctttttttt tttttttttt
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53581 ctgcaagctc cgccctcccg attcacgcca tctcccgcg tcacctccc gagtaccctg
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53701 tagtagagac agggcttcac cgtgttagcc aggatggtct cgtctcctg acctgtggt
53761 ctgcccgcct cagcctccca aagtgtggtg attacgggag tgagccaccg cgcccagcca
53821 gactgagttt ctcttgaaca tgtgatttgc atctaaacca aatttgttaa aagtcttttt
53881 tttttttttt ttttaagtaa aaaaggcagt gattttgatt tgtaatgtct tttgttagga
53941 gaagtaaaag aaaaaaaatt cttgaagaaa agtgagccag aattactgcc tagggagtga
54001 tagtcatgta ggttcacaat gaagtttaga agtgctcttc gtggttccgt ttcctctttt
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54181 aaaaagagct acctgcaaag acttgaagta ctaagattac ctagaatctg aatgccctgt
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54481 tcataaaaaa aatcagagta agactttcaa cagatgtcag gatagctgaa gttctccatc
54541 actgtcatat gtttcactta tgacaggttt gtaatttctg ttagggaatg tcatctaagt
54601 gctctgcac tggatatttc tctgcacccc tcatgacaag aaaaaagcct ttgattattt
54661 ctcttttctc tctattttaca tgttcaccac tgccttccat gttcagatgt gatctacatg
54721 caatgatgat tactctttcc ttcctttccc ccttgccctc ttttatcgtc tttctttctt
54781 cctttttttg gttgaccctg tttaaatggg atctatcaaa tataccaagt ttcagtga

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FIGURE 10

54841	gttacttcct	tgtgttaaaa	gtcatgactt	tctctttttat	ttatacactt	aataacttga
54901	ttatatatac	ttgaattttg	tttttagtgca	gaataatttt	ataatctttc	tgaaggattt
54961	ttaaagtggc	agttaattcc	aacatttgta	ataccaacaa	tgagataaac	tgagttgaat
55021	gacaacagca	tgaatagcct	tgattaaagt	gtacatgtgc	agatagctac	tgtgtatatc
55081	atgcctgcc	tctggacaac	agtgaatttt	ttttcttttt	ttttttttgt	ttgagacaga
55141	gtctcagtc	gctgcccgca	ctggagtgc	gtggcgtgat	ttcggctcac	cgcaacctct
55201	gtctcccagg	ttcaagtgat	tctcatgcct	cagcctcctg	agtagctgga	attacgggtg
55261	tccgccacca	tgccctggcta	ttttttgtat	tttttagtaga	gacgggtttt	cgccatgttg
55321	gccaggtagg	tctcgaattc	ctgacctcaa	gtgatctgcc	taccttgccc	tcccaaagtg
55381	ctgggattgc	agacatgagt	cactgtgcct	ggtcagaaaa	cagtgaattt	taagatgtca
55441	tcaattgtat	ggtagaatct	gaattcaaa	atgttaagaa	ggggatgggg	gaaaggtgtc
55501	tcttagaaca	tgtaaaagaa	catgttattt	ctgtcaactt	ccaaactttt	atctccagcc
55561	acatctctta	cttgatttca	gatttgata	cccagctcct	gttttacatc	tccactctgg
55621	ttaatgtgcc	tcccgggata	ttttaaatat	aatttttaat	tctgcacctc	atgcttgttc
55681	ctcccaacct	cagtgttccct	tcttcattct	ttttgatttt	tggctcttac	atcctttgac
55741	ttaggttata	aactgtagag	tcgaggatga	ctccctttta	tcatacctca	catccaattt
55801	accagcaaat	cctattgact	gtacctttat	aatatattta	gcactctgaca	catcttatca
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56041	ctaccataca	aatcactcat	ttaaagtgt	cagtgcggag	gttttagtgt	attcagttg
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56161	acacccctag	ccattctccc	ccaatcctta	tattcccccc	atttctaggc	aatctaattt
56221	ctgtctctgt	ggatttttct	attctggacc	attttatata	cgtggaatca	tacactgtgt
56281	ggttttttgt	gactgcttct	tttacttagt	gtaatgtttc	caaggtttgg	tcatgttata
56341	gaatgtatca	gcattttgtt	tctttttatt	accaagtaaa	attccactga	atggatatgc
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56461	tgaataatgc	tgttatgaat	attcacaagt	ttttgtgtct	cctcctgtct	tggaactctg
56521	tttccctaac	agaacgtatt	aattttcttt	tgtacaaaag	ccactccaaa	cgatagtgtc
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57061	gcatgctgaa	cttgtttcac	ttccttccct	tctctgttca	tgatcatctc	taccaatgag
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57181	ctctgttttt	ctctataact	tttttagacc	atctgacatt	gtctgttttt	tttttagcgg
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57301	ctgtcttcat	tgccatagaac	cctggcactc	attaaatatt	tggtgaatga	aaaattaatc
57361	tacattgatc	catttttacc	taaattggaa	ttatcttaaa	gttctaacct	gccttcatgc
57421	tatggcatgt	ataaagtgtc	agtcttttga	ttagaatacc	taatgatgga	atatttcttc
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57541	tctgacttgg	gccaaagttt	ttttaacctc	cctgtttcct	catctgtaaa	atagggttaa
57601	taatagtccc	agcctcatgg	agcctggcac	aaggtaggca	ctgtataagg	ttgggtgcaat
57661	gtgtattgca	taatattttt	tatcacctac	ttgttattgg	agtatatggc	acagggaaaa
57721	tgggaattgaa	agctggagca	atcttatatt	atggagaagt	tgcaaaatct	ttgaaaacta
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57841	tgcatcataa	cattatatcc	ttaaaacact	gtcttacaaa	gtgctctctg	aaaaatactg
57901	ttcttttatt	cagggtttac	gaaaaagtac	ataaaaactag	tgagcataca	tcttaactct
57961	ctgagagtct	tataagtacc	atcctagatg	catggagaga	agataattca	ttacttacac
58021	taggtcatgc	cttaggtcgt	taagacttaa	gtatctcatg	gaaccccgat	tgagaaagaa
58081	caaaaatata	acatcttgac	taaggtggct	agtgtctctc	tgatcttaac	tattatttct
58141	ctagcctcag	gtgagccttc	ttgaatgtga	tttcatcagt	ctcctctaag	cttaccacga
58201	atatagaatt	tttaatat	tatatagcca	gcacttataa	actacctgtc	tcatgtcagg
58261	tagtataact	aggtgctagg	agtaaaactg	atcaagtggg	gtaagtccca	aattcacaga
58321	gcgcacagtc	ctaacaggct	gtcatgcctc	agttgtttat	ttgtgacagt	gtttccacaa
58381	gacttttaat	tttggaatga	taggatgtgg	tgctctggaa	ttgtgtccca	gggttttggg
58441	gaactgagag	taacctggga	aagcagggtta	cagtgaagaa	aagttatgac	caggagttgt

FIGURE 1P

58501	accaaaacgc	aggaaacatg	atatgtatat	tgttatgggtg	cataaaaaata	cttacaatta
58561	aaagtcctga	acctacacta	catctattgt	ttcacatatt	ttccttcaat	ttaaatcctg
58621	ctccaaatac	agctcctttc	cgaaaattca	gttttatgtg	acagaaatth	gatctgtttc
58681	actgaaaacc	catttgaata	gtaattgtga	gcaattgttg	aatttgtaaa	tgttacgtaa
58741	atttagtgga	tgactttgtg	gacagtttga	cgttatggac	agttattctt	gatactgttt
58801	cccctccttt	cccctgccat	ccctgaaact	ttagggctta	atctgctttt	aattagccag
58861	aaaaaaatgt	ttgatcctct	tattcagttt	tagattattt	tagatgattt	ctaagttaaa
58921	ctctaagtta	gaatagtttc	tgcttattga	tttcatgaat	atcacttctc	tatttctact
58981	tctcaccttc	tgccaggcca	aaggaaattgt	ggaactatga	tcatcaaact	cctaaatcat
59041	cagccttttc	cttaaaaagac	ttaaaagggt	tctatctatg	tagacacttg	tctggctcct
59101	gattacagtt	ttaccattct	caagtgtatc	tatttgtttc	atcacagtcc	acataattca
59161	gggtcaagat	actattatga	aatgactgta	aaaattacta	atacctttgg	ctctctaatt
59221	tttctctctt	ttcatcatat	gggcctgaca	aatgcccgc	tacctgctg	cacttaggca
59281	attgaatgta	gtgctttaaa	tgtataccaa	aaccctcaac	agggcatcaa	caatgtctgg
59341	cagtgcagct	gcttcttcac	tttcccaatt	aaaaatgctg	ttgctggctg	ggcgagctgg
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59461	agttcaagac	caggctggcc	aacatggtga	aaccccgttt	ctactaaaaa	tacaaaaatt
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59701	attgcaaacc	tctcacagct	cccactccta	ctgttggaat	tcacttcaaa	ctttactgag
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59881	tctacttggt	actcagattt	catctttcct	gcactctctg	cttccatctc	attcttctcc
59941	cctcgattaa	attcccttta	gccacaaaca	tgctctatta	tctcccagcc	ccaatacatc
60001	tgcaaatgta	tgtaaataag	aatgaccaaa	tatgtacaga	tatacaattc	ctacctttcc
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60961	cttacagtca	tggcagaagg	caaagcagga	gcagggtcgt	cttacatggc	aggagcaagg
61021	ggtaggggga	ggtgctacac	acttgtaaac	aatcagatct	tttgagaact	cactcatcaa
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61321	ctctacttac	cgtggctttc	aggatccttc	ataacctggc	atattgccta	atttttctga
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61441	tttctagtgt	gaaacatggc	tttttgtggg	gtgtatttcc	ttttactttc	tattgttttg
61501	ggaccaactt	atttacgtca	gttttgtgtt	tgttttgtta	tatgtaaaaa	tagtgcttta
61561	aaaaatcagt	tttttttttt	aacctgggtga	atcatttggt	ttacttttat	aaatgctggg
61621	acgagaggcc	tactcctttt	ttccaatttt	gtgagagatt	ggtaaaattc	ttagaagtgg
61681	aattgctagg	tcaaaaagata	gaaatgtttt	cagatggatg	attcctattg	aagtaaatth
61741	tttgagaact	taacatgtcc	aaaaagggtt	tcatttgccc	tcagtcttga	ctggtagttt
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61861	tactatcttt	taaaaaataa	cagtttttatt	gaggcataat	tcatatacca	tactatgtgc
61921	aaatttagtg	tttttaatat	attcatagag	ttgtatagcc	atcacccag	tacattgtag
61981	aatattttta	tactcaaaaa	atgaaacccc	tggattttatt	agcagtcatt	ctctgttccc
62041	accaatttgc	ccacccccca	gccttaagtc	aacaagtaat	ctactttccg	tcttcattgt
62101	cttttaatgt	tgctgatgaa	aagtctgatg	ccaaatata	tctagttata	ggaagctttt

FIGURE 1Q

62161	agagttttcc	gttttgaatt	tctggaattt	aattatgtaa	actaggattt	atgtagatat
62221	gagtcctttt	attcatccgc	cttagcctca	ctgagccctt	ttactcagac	cattgggtgt
62281	tttaactcca	aataattttt	gcataatctt	tatttattct	attttcttca	tttagaactc
62341	ttactaaatg	tattttgaac	ttcccaaaca	tattctttat	atctcttcaa	ctttttactt
62401	gtatcaccca	ttcttttctt	tcttgctctc	tcttttttaa	cctctctaac	ttctgggaca
62461	tttctttgtg	ttacatatca	ctactatgat	ctttatcaat	actacttctg	ttatttacc
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63721	aatattatgt	ttttgagatg	tattcatggt	gataaatata	gcgctagctt	tttgttttga
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64741	tactattata	cagtgtctcc	ataaaaaatt	tagaatcagg	ctgggagcag	tggtttacgc
64801	ctgtaatccc	agcactttgg	gaggtctgaag	cggacggatc	acgaggtcaa	gagatcaaga
64861	ccatcctggc	caatatgggt	aaatcctgtc	tctactaaaa	atacagaaaa	ttagctgggc
64921	atgggtggtg	gcacctgtag	tcccagctac	ttgggaggct	gaggcaggag	aatcacttga
64981	acccaggagg	cggaggttgc	agtgaagcga	gatcatgcta	ctgcaactcg	gcctgggtgac
65041	aaagtgagac	tccatctcaa	aaaaaaaaaa	aaaaaaaaa	ttacaatcag	tttttcaagt
65101	tccatggggg	aaaaattatt	tttggaattt	tgttttattg	actacactga	atttatttgt
65161	ggaaaattga	catcattata	atatgtgaat	ttcccataaa	aggatattta	tgtaggtcct
65221	tgtcaagtga	aggggaacac	atctgcatgc	acacatacat	gtcatttggt	gtaatgtgaa
65281	ataaggttta	gtggagaaaa	ataaagaagt	attaaggcac	acacaattcc	ctaaggctct
65341	ttatccccat	atagatgtgt	gcaactggcca	gacacatcta	gaactatgta	ctgtggaaag
65401	ggctcctgtg	taataattgg	agctttgagg	ttgggtgaa	ggcttacta	gggaaagcca
65461	tcagtactct	gtggctgata	agccttttct	tgcatgaaac	aaactcagac	ctcctgagcc
65521	aactttttga	taagctacca	aaacagggtt	ggaaacctct	agagtcatct	gactctgtct
65581	ctcttcttag	tagccttttg	tgcaactgca	cattattttg	ttgtttccgt	cacaaaagtt
65641	ttgggaatct	tttggttagac	ttttcttcta	gattctttat	aatgttacta	tcatgagaag
65701	catctttttt	taattggctc	tggtctaatgt	gttagaacac	catgtaattt	tatgtccttg
65761	attttatatc	caacaaacct	tgctaaactc	ttctgttagt	ttttatagtt	aatagggtatt

FIGURE 1R

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65821 agccctgatg gttttagat tctcttgggt ttttctgtag atagcatgtt tcctacaaat
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65941 aaacacttat ataaacacta cctatactac caagattcaa tgattgttaa catttttactg
66001 tgtgtatatc tcctaagaaa aaggaaatta tttcatttaa ccaaaatc atagttagga
66061 aggttaaaat tctatcatct tacatctgat atgtgttcag atttccatg tggtcccaag
66121 aatgtctctt gcagctatct tccatcccta aactaagatc cactctgcat gcactgaatt
66181 atttgttgac ttttagtagt agttatcttt tagtcttaaa ctgaccacct actgttttgt
66241 tctcccatga aatgattttat taaagaatcc aggacagttg tcttagaatg tcccacattt
66301 tggattagtc caattgccaa ggctttgact ttcaaagaga agaaaaatgt cttagagaat
66361 gttccacaat ctatatttga ttatttcagt gtagcagtct tagcgtattt ctctattccc
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66481 ttgcatgtat acttcatggg tgatgtctca tgttgtatca catcaagagg catatgttgg
66541 gttgttccac tattaatgat tctaagccac ttgaagggtat gttttccctc tcatctttaa
66601 tctgtggcga aatacttttg cactatgtaa gtatcctgtt ctccatcagc ttttctccta
66661 atgattttta gcatcatttg atccttttct gaaccaatta ttttatatta gctggcattc
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66841 acagtgtgag caactgtctc cccacccttt taatttttat ggaattttga aggttttttg
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66961 ctgaaaatct ccaaatttgg tcaagtaggag tcccttcaag ctggcctctg atgttgttct
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67201 aacctaaatg cttatttagg tttactttca tgtatattag tctctagatt ctccatctgt
67261 gttcattttc tatggctgca ataataaata acaacaaact tggtcactta caacaccaca
67321 aatgtggtgt actctcttac atttctggag gtcggaaatc cagaatgagt ttgttttact
67381 gggcaaaaaat caaggtatca gcaagacttt gctctctcta gagacaataa ggaaaaatct
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68701 ctttcttcac agtttggtt attttatgtt ttgtttgttt gtttgtttag agatagtctt
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69061 acatctaggt tttgctagct tcttaaagta atttagaaga tatataagta tatatatgaa
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69361 ttatttacta agcttgcttg gctgtaatag ctgtggtcta ctgaagagat taaaacagga
69421 gaggagatct tttagtaact ttcttgaagt ttttagtttt gtttttaatt ttttcatctc

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FIGURE 1S

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69481 ccttttagga ttgtggtaac aggtttttct tttttttcca agaagatggt ttaactatgt
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69601 gtcatacaaag ttcttttctct gactcttctg gagattctga aagactttct ctcccaaaca
69661 cattcttttaa aattccaaca agggtcattg tgactttttt ttattcttcg gatataaaat
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69961 cccggctaatt ttttgatatt ttagtagaga cggggtttca ccgtgttggc cagctggtct
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73021 gtgctgggtg ttggtgagat tgtggggaag agtggaacta taccctgcag atagggactt
73081 gacttgatac atttcttctt ttggaagacc atttggcata tttattaaat tttaaaaatg

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FIGURE 1T

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73141 gtatatcctt caatcctgga atcctatacc tagataccaa aaaataaaac ttgcactttt
73201 actctgaaaa gcagttcaga actatctgtt ggagtattgt ttgatgttga ggaaatggaa
73261 taatctaaat gtcctttagt aaggaaatta ttaaatacaag agatttggaa ctcttttttt
73321 tcattttatt cccagttacat ttaaaaattg atatctgaca ttttttcatt ataactttga
73381 atagttttaa aggccataat ttctactgtg tgttatattt atgttaaata catttttttg
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76741 acatcagacc ataactcaca ggttatatta ttagcttgKg gtaaaacaga ttcttatctt

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FIGURE 1U

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76801 ggggacttgt ggtatacaat gtgtgtgtat tatgtgtatg tagtatgcaa aggtatgcat
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78421 tatcaaaatt ttttcccttt ttaaggctga ataataatcc attcattgta tgtatttacc
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78781 agcctaggct gagcgcggtg gctcacacct gtaatgccag cactttggga ggctaagggt
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80341 agtgcagaaa acagaataaa acttaaaaaa aactataatt agcatcagag ataagatctR
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FIGURE 1V

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80581	tggagcaatg	gtgagcgcac	acttgacaa	gggaggggaa	gggggttctta	tcccatatgc
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80701	ctaattccga	ttaataacta	gaatttttta	atttttatta	ttatttttct	ttttttgaga
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80941	accgtgttag	ccaagatgg	ctcgatctcc	tgacctcgtg	atccgcccgc	ctcagcctcc
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81241	aaattataaaa	tgcttttaac	tgcaagaaac	agaacccttc	aagaataagt	ttctggaaca
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83941	gaggatcgct	tgagcctggg	aggcggaagt	tgcatgtagc	caagatggca	gagtcacca
84001	ggctggaatg	caggggcacc	atctcgactg	actgcaacct	ctacctcta	ggctcaagcc
84061	atcctcccac	ctcagcctcc	cgggcagctg	ggactacagg	catgcgtcac	tgtgcctgga

FIGURE 1W

FIGURE 1X


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91261 ccagggatgc ccacttaaa aggggaatat caacatatga attatctgta aatagataat
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91381 ctttattgtc tgtattcatg agcagaaagt aggaaatgtg ttcttcagtc ccaggcgttt

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FIGURE 1Y

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94981 aacagagatt gacctggata cttgctgtat aattcgaaag ttgaaagaga accttttcag
95041 aaagataaac tggtaatctg cgggagaatg aaaactggat cgttttctca ttggcaaac

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FIGURE 1Z

95101	gaggggctaga	aggcagtgga	tcagggccat	taaagatctg	atggaagtta	atagccaagc
95161	taatattaaa	agtaagacac	tttgggtatc	tagggactga	aaattatttc	agtgggaatat
95221	aataaggtatc	tagaaataga	tcccagaatt	tcagaaaatg	taatatgaaa	aaaatgggttc
95281	aatcagtaag	aagaaggtga	attattttaat	ttttgggtgct	ggcatatgta	gaagaaaata
95341	aaattggggcc	cacatcttag	actgcttaca	aaagtaaatt	ctatcagaat	caagagatta
95401	aataccaaaa	aaaaaaaaaa	atgtaaatct	ttcaagaaaa	atctagtagg	ctgcatgtaa
95461	aatctaggag	ttgaggtcac	tatcttaatc	aaaacttaat	tagctcaaaa	gctgtaggag
95521	acagatggat	taaataacaat	tttgaaatta	tgtatgcccc	ccccacaaa	aaaaaacct
95581	taacagagtc	aatagtcctgt	ataaatttgg	aaacagcatt	ggtgccaga	taccaagaag
95641	taaatagtct	tctgaatata	caaagaacac	ttcaaaattg	gcaagaaaaa	gacaaaacc
95701	agcagaaaaa	tagggaaaaa	atataaatag	gcagttcgta	taagatgaaa	tccaaatgaa
95761	cagtaaagca	tgtgaacact	gttcagatgc	agtcagtcag	ttgtgagtgt	acaaattaaa
95821	actatgagat	catttcatct	gtctggcaaa	atataaatta	ttattggcag	gggtgtagtgt
95881	agaaaactgc	tcccttagtt	aaggatagaa	atgtgaagta	tcacagctta	ttggaaagca
95941	ctttgataat	atctgtcaaa	atttacaaga	actgtatctt	ccaagccagt	actccatcta
96001	ttgggaattt	agcacataaa	agcaccaata	tttatacaag	gatatttgtt	aaatcctcgt
96061	aataagaaaa	aaatatagaa	tgtcatcagt	agagaaatgg	ttgtataaat	catggtacag
96121	ccacaccatg	tagtacaatg	cagcctgtga	aaagacttgt	acttgaaggt	ttttctgaga
96181	ggtattataa	ttgagaaaaa	gaaagctggt	ggaaactctg	atattactta	cttattcttt
96241	atgtatatca	cattgcaata	ttctagtagg	tctagaaata	tctctctcaa	ctagaaatgc
96301	tgaataaaa	atgttttatt	aaatgtatag	ctgagctcaa	tagaaaaaac	tatagagggt
96361	gaaaacaaa	acggagttga	aaaaaccaga	aaagcatagg	agctgatatg	ttaaggatct
96421	gctgaactat	aaccctcaac	aaatctaacc	caccatctat	ttttgtatgg	cctgccaact
96481	aagaatggat	tttacatttt	taaagtcttg	aaaaaagtta	aaggaataat	agtatttcat
96541	aatctatgaa	aatcacacga	aatacaaatt	ttggccaggt	acggtagctc	atgcctgtaa
96601	tctcagcatg	ggaggctgag	gggagtggt	cacctgaggt	caggagttct	agaccagcct
96661	ggccaacatg	gtgaaacca	catctctact	ataaatacaa	aattggccgg	gtgtgggtgc
96721	gcatgcctgt	aaccagctta	tttgggaggc	tgaggcagga	gaatcgtttg	aacctgggag
96781	gtggagggtt	cggtgagccg	agattgcgcc	ggtgcaactc	agccgggggc	acaagagcaa
96841	aactccatct	caaaaaaaaa	taaataaata	aaatttccagt	gtccatcagt	aaaatgttat
96901	tggaaacacaa	caatgcta	ctgtttatat	gttgtctgtg	gctggtttca	tgcttttagca
96961	gtggtgttga	gcagttgtac	atcacagtgt	aatctacaga	acctctgggt	ctttatggaa
97021	gaagtttgct	gacctctgct	gtcgtggcct	caggtgggcc	agtttgtcac	tctggaacaa
97081	aggatgtgaa	tatcaatgtg	tgggaataca	acactgggcc	ttcagcttgc	gtcacaaaag
97141	tagttggaac	ccagattctc	acataaagct	gaccctttga	aggacattac	cttcagttaa
97201	aggctgaaat	ctattaccag	aatacataaa	gataacaata	aacttgactg	tctttgacag
97261	tactctaaat	aaagtttccc	ctgtgatttt	ttactatgg	acctattctc	atcattgtgt
97321	gggattcaaa	tttatactgc	ctgcattgtc	caggaaccct	caagccatga	agtggaacata
97381	acgactggtc	ttggagtgg	aatagcactc	aggcactgca	cagaagcaat	ggaaaccctc
97441	cctcagcccg	tctaggtctc	atagaattca	cagaaataat	gctttactga	ctctctcaag
97501	atctcaagtt	gtaagacatg	caaggaaaca	gtctacaatc	agtgaagttag	cagacttaaa
97561	acagcagggt	tagactccta	agaaagaacc	aagtagaact	tttaggtagt	cttgattttaa
97621	acctcatcat	ctatgaagta	ttcttgcttg	gattgggacc	ttctatttta	taagaaacac
97681	aggggataga	ggaaaaaggt	aagcaccatg	aggaaacaat	tagacaattc	agaatgttga
97741	cttctgttaa	gacaatagcc	ctagactcct	tgataagtta	atgtcttgga	caataaaaaa
97801	gttggggatt	attccacact	gtacaagacc	aagtgcacat	aacaacccaa	tgcagtgtgt
97861	aatcctgagg	ggggaagaat	cattcttggg	acttgggaaa	tttttaacat	tgattgaata
97921	ctacatattg	ttatggaatt	aacgttctta	aatgtgagga	tggtaacgta	attatatagg
97981	agaatgtcct	tgttcttagg	aattacatgt	ataagtattt	aggagtaaag	tgttaggatg
98041	actgcaactt	cccccgcaaa	cccacgcttt	tttgagatgg	aacttataca	cagtagaggg
98101	tacaaatctg	aagtatatcg	ctcagagttt	ttacatgtgt	aactaccatg	tagatttaaga
98161	tgtaggacat	ttcctgatgc	tttagagggt	tctcctgtgc	ccctcccaat	tcactaaaaa
98221	taaccactat	ttcattttct	tctctgtcag	ttacttggaa	acttaacttc	aaatgggtgt
98281	atggaaatca	acatgcagag	aaagagaaaa	gcaaatacga	aaagataatc	ttagaatcta
98341	agaaaatttc	gatgttaatt	gtaccatttg	ttcagatttt	ctgtctgaaa	ttttttgtaa
98401	tagagttgga	aaaattgaaa	acatagaaaa	aaagaaatgt	agaaaagttca	aaagaaacag
98461	ttatctctag	gaaaaaagag	tgaacatact	gatactcatt	tgaggatgta	gcaagataac
98521	actttaagta	aaatttcagt	atgtcaagtt	agttacagca	aaattacatg	gaaatgttta
98581	aatgtcacat	agaaattcaa	atattttattt	aaaaaactca	gtgaataagg	taaagctaga
98641	ttaaaccag	caaagaatg	aattagttaa	ctctggaaag	tRaagaaaga	gagttataga
98701	aaatataaaa	gagaggttaa	gcagtatgaa	aaatggaatg	agcattatat	gcctcaaaaga

FIGURE 1AA

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98761 gttccaaaag gtaagaatag aaataaatga gtagagaaaa attcaaataa attaggggcta
98821 acattttacaa atgacataaaa tctaaYgatt tgggaagcac aatctctgag ttggacaaac
98881 aattttgaatc caggatagac ataataaaac caaagaatat tgttttaaaa gcactcaggg
98941 aaaaaattat atagaaaata attaaaatta gactaggaaa atttgttatg gcagttgtag
99001 aaatcagaaa acaatagaat aatatactca gagtactgag aggtacctgt aaatctctca
99061 gctaagttaa gctataaaatt tgattaggtt gacttgggca aatgcaccat aaagtccttt
99121 ccagagaagg agttcacttt tcataggttc tacttgaagg aattgtccaa gaaggtttac
99181 tgtataaagg aaattgaaca cagaaggaat gaaaagttaa aattaaacct aaaatttgca
99241 gaagaaaaca ctacagaaaa tttttgtgac ctggggtttg gcaaagattt cttaaatatg
99301 acaccagaag cacagtctat aatgaacgta ttagtattt gggttaatca aaatgtaaaa
99361 cttctgctct tcaaaagaca gtattaagag aataaaaaga gaaaccacag attgataatc
99421 tttgtaagcc atgtatctga tcaaggacat gtagaatata taaagaactc tgaagctca
99481 atagtaagaa aacaaatggc tgggtgcgga ggctcatgcc tgtaatccca gcactttggg
99541 aggctgaggg aggtggatca tgaggtcggg agttcaagac cagcctggcc aagatggtga
99601 aaccccatct ttactaaaaa tgcaaaaatt agctgggcgt ggtggcaggc gcctgtaacc
99661 ccagctgctc gggaggctga ggcagaaaaa tgcttgagct cgggaggcag aggttgagct
99721 gagccgagat tgcgccactg cactccagcc tgggcaacag agtgagactc atctcaaaa
99781 aaaaaaaa agaaaaaaca acccaattaa aaacggacaa aggatttgaa cagtttcatc
99841 aaagatatat ggatggtaat aaacgcata gaagacgctc aacattagtc attaggaaaa
99901 tgcaaattaa ataggcacgc gataccctta catgcctcct agaatggctg aaattagagt
99961 gaccatacca agtattagtg gggatgtgaa agaactagaa tttccgtaca ctgctgatag
100021 gagtgtttaa ttggtacaac cactttggaa taaaatttgg cagtttattt aatgaaacct
100081 tttcaaaatc ccaacgggct ttttttttt ttctcagaa atcagtaaaa cgtcctaaaa
100141 ttcataccgt atctcaagga atcccgtata gccaaagcag tcaaaaaaag tacagagttg
100201 ggggcatcat gcttctgat ctcaaaactt actacaaagt tagagtaatc aaaactaagt
100261 ggtactggca tgcagacaga tgagagtcct gaactaaatc ttcacattta tgggtcaaatg
100321 atctttgaca agggtagcag gaccactcca tgaagttaa agaatctgtt cagcaaatga
100381 tgctggcaac tgaatatcca catgcaaaag aatgaagtgg tacccttccc ttataccatg
100441 tacaagaat aacccaaat ggatcaaaga cttgaacata acagttaaag ccataaaact
100501 ttactacaa gaaaacatag gagaaaagca tcataacttt ggatttgtca atgatttctt
100561 ggccgtgatg ccaaaagccc agggaaacaca agaaaaaatg gaaaaattgt actattatca
100621 gaatttaaaa cttctgatca tcaaaggata taatcaacag agtgaaaagc caacctggaa
100681 tgggaaaaat atttgcaaat cttgtatctg ataaggggtt aatatccaga atataaagaa
100741 ctcctgtaat agcatacaac cttgttaaaa aatgggcaga ggacttgaac agacatttct
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100921 tatcagacaa aaaagaagat aacaagagtt ggcaagggtg tggagaaatt ggaccctgt
100981 tgcactgttg gtggaaatgt aaaatggagc aactgctatg gaaaacagta tagaggttcc
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101101 caaataaatt gaaagcagga tctcaaagag atatttgtac actcatgttc atagcagcat
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101281 atactacaac atgagtaaat ctcaaggaca ttatgttaag tgaaatgagc cagtcataaa
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101581 tgtagatat attttaccat aattttgtga aataatagta tggtagttat gtaaaacgtt
101641 aggtggaca cgggtggctc cacctgtaat ctcagtgtt tgggaagtca aggcgagaga
101701 atcacttgag accaggagtt ccataccagc cagggcaaca tagtgagacc ccatgtctac
101761 aaaaaaatt tttaattagc caggagtggg ggtgtacatc tgtagtctca gctacctgag
101821 aggtgaagc aggaggatca cttgtgcccc ggagttaaaa gctacattgt gctatgtgca
101881 cattgcact ccagcctggg tgaaaagaca agaccctgtc caccocaca aaaagtcaga
101941 tgtacactta gcatatcaca cagcccttct actcctcggg atttacccaa gagaaaaggg
102001 agcatatgtt cgtagaaaga tttgtatacg aatgttctta gttgctttgt catagcccca
102061 aactggaaat aaccctaatg tcataaaca ggtgaatggt tggattgtgg tgtatctata
102121 aaagggaata ctactcagta gaaaggaatg aactgctaata gcacacaac tagatgaatc
102181 tcaaagtaat tatgctgagt gaaagaagtc agacaaaaaa tgattacacg ttttaaaatt
102241 cagtttacat aaaattctag aaaatgcaaa ctcttctata gtgacaacag atttgtattt
102301 gcctgggcac aggactatgg caggatggaa gatttacata ggagcacaag gaacctttca
102361 gaaagtgatg ggtatgttca ttatcttgaa tgtgatgatg gttgcatggg tatatacgta

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FIGURE 1AB

102421	atctcaaaat	gtatcaaatt	gtgtactcta	aatcattgca	gtttattgta	tgtcagttgt
102481	acctagataa	atctgtttgt	ttgtttttta	atagccttta	agaaagctga	tagtactgtg
102541	gaaatattat	atgaaataga	ctttggggaga	aagaattatt	attaaaaattt	ttttttcaac
102601	ttttatttta	gattcaggag	gtacatgcac	agctttgtta	tctgggtata	ttgcatagtg
102661	ctgaggtttg	atgtacaaat	gatcccatca	tccaagtact	gagcatagta	gccaatagtt
102721	tttcaacctt	tgccctcccc	gctctagtag	cctccggttt	ctgttattgc	tgtctttatg
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102841	ctcttcctgt	gttaatttgc	ttaggataat	ggcttccagc	tgcatccagg	ttgctgcaaa
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103021	gatgtatata	taccgagcaa	tgagactgct	gggtcgaatg	gtagttctat	tttaagttct
103081	ttgagaaatt	tccaaactgc	tttccacagt	gcctaacca	tttacattcc	caccaacagt
103141	gtacaagcct	tcccttttct	ctgcagcttt	gccagcatct	gttgtttttt	gccagcactt
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103261	tggtgaaacc	tcatctctac	taaaaataca	aaaaaaaaa	ttagccagcc	atggtgggtg
103321	acacctgtaa	tcccagttac	ttggagctga	ggcaggagaa	ttgcttgacc	ctgggaggca
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103861	atggagtga	gtggtataat	cacagctaac	tgcagccttg	acttctcagg	ctcaggtgat
103921	cctcccatct	caccctccaa	gtagctgaga	ccacaggcgt	gtgccatgcc	taatttttaa
103981	atttttttgt	agaggtaggg	ccttgctatg	ttgccaggc	tgggtctcaa	ctcttgggct
104041	caagcaatcc	tccctctgtg	gcctcccata	gtgctgggat	tataggcatg	aaccactgca
104101	cctggccctg	agatatattt	gaataattgt	aaaaatctgt	taattggggg	tattggaggg
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104281	tattcatgta	ttgttttagag	tagttgtatc	tcatttagct	atttctttct	tgatggataa
104341	ttaggtaatg	ttgcagtata	tatttaagta	catatatcct	gaaacactgt	gggaactactt
104401	ttattgggga	agataaatac	cttgaaataa	ttattgggtc	atagaataata	cacactgaaa
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104761	aaaaatttta	tttgatgggt	tattgagata	taattcaaaa	gccatacaat	ttaccctttt
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104881	aatatttttt	catcccaaaa	ataaacactg	taccctgttag	cagtcacttc	ccattcctcc
104941	catccctatg	taaccaccca	tttgctccct	atctctatag	atttgcctat	tctctggcat
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105061	gtttttcaag	tccatccaca	ttgtaccctg	tgtcagtcct	tcatgccttc	ttatggctca
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105361	tttcacatca	ctgccaaact	tgttttattat	ttgtcttttt	tattatagcc	atcctaattg
105421	gtatgaaatg	gtatctcatt	ttgggtttta	tttgcatttc	ccttatgact	agtaatgtga
105481	agcatctttt	tgtgtgattg	ttggctttta	tatatctttg	tggagaaaag	atttgccttt
105541	atatagatag	ttttacatgc	aattcataga	taaataccaa	tgacctgaga	cgagaagaat
105601	tacaaagggt	tttgaacaat	gctctaataa	tagaaatcgg	acagaaaaga	gaaagtagcc
105661	aagattattt	cctctagaga	tgggaaaatg	tacaagttct	ccaaggatct	atgacacaac
105721	aagagaaaga	agtggagata	acaagaataa	aactgaatgc	tctagagaca	caaaagggaa
105781	atactgaaga	taggtgaagct	ctcttcagta	tcttctttgt	ttttaagttt	attcctaggt
105841	aagctatctt	cagtgtaaag	tagactacgt	aagataggtg	agctgtcttc	agtaaaaggt
105901	agactagata	agctatcttc	aaaataaggt	agactaagtc	aaaggattgt	aatatcaaga
105961	aatgtgatag	accctggatg	tgggtctttta	catcactaaa	tgaaaaccat	acttaataag
106021	ttgtatatag	tattgtaaag	ataattgcct	gttttaggta	tttcaaaatt	ggtgactttg

FIGURE 1AC

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106081 gtttagcatt tagaaaatat tgttcataag gttttttaac tttttattta gaaaatttaa
106141 aacacttggc cgggtgctggc gtgttggctc atgcctgtaa tcctagcact ttgggaggcc
106201 aaggcggggc gatcacctga ggtcaggagt tcgagaccag cctggccaac atgatgaaat
106261 cctgtttcta ttaaaagtat aaaaattagc caggcattgt ggcgcacacc tgtaatccca
106321 gctactcggg aggtgaggc gggagaattg cttgaacctg ggaggcagag gttgcagtga
106381 gccaatatcg tgccactgca ctccaggctg ggcaacagag caagactcca tctcaaaaaa
106441 aaaaaaaaaa taaaataact tgtatggaaa aatataaagg acaatatatt aaacagctgt
106501 ttagtcacct acaatgaaca aatactaatt ttttgttata tttgcttcat attatacata
106561 gaagtacaaa ttaggttcc actaccagtc ccattcctct gctggacacc catcgtccca
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107761 ctttccaatt tggataccct ttttttttcc tcttatccaa ttgctctagc taggacttcc
107821 aatagtgtgt cgaataacag ttggtgaaagt gggcatcctt gtcttgttcc aggtcttaga
107881 agaatacttt caggtttttt tcattaatta tgattctagc tgtgggtctg ttgtctgatg
107941 aaaagtctga aacggtacct aaactacta aattaatttt aacatctttg agttgttttt
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108121 ggtttgtaaa caaatatctg ttgattggca ttaatcctga tggtatccaa ggtacaggaa
108181 tggcaaaggg aaaagatagg gcaatactga ctgatgcttc aaaatcatgc cctagttagt
108241 ctataatcaa gcaggaaatg tttatggaat ggaaagatta aggaaaaggt atgttcttat
108301 tttagcaata aaacgaatac cagaagcttt aacattcacc agtacaaaata aatagtttca
108361 atggaatagg tcgaaaagtaa agggacatca ctagagtaaa tgctagacct tccctctcct
108421 tttattttta gcaacagcaa agcagaactc aagatctaca agtgatcaaa gaggtgatc
108481 cattcagttt ctgtgtagac aggaataata ataatacctt ttacatatgg gtagcttttg
108541 taaaaacact ttactttact catttaatct tcatagcaac ttgatgaggt agaatactat
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108661 gctatggaat ccaagacatt cttggcgcct aataaactgt attctttgcc aacagtgaaa
108721 gtgcttctct gttgcttggg aagttttttc cccttagaat actaataaag taattgatta
108781 actttcattt ttattttgat ttgattggga cagcaattta gcagtaaaaa atgtcacctt
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108901 ttaattctaa aattgctttt accttctgaa gtttttgtgg tatagacatc ctcttttttc
108961 tactttaatg aaagcatgtt ataagcagat cataacaatt ttttttctt taaaacaata
109021 ttgtaattag gccagttgca gtggctcaca cctgtaatcc cagcactttg ggaggctgag
109081 gcaggcgggt cacttgaggt aaggagttcg agaccagcct gaggaacata ctaaaaaccc
109141 gtctttacta acaatacaaa aaaattagcc gggcttgctg gcacatgcct gtaatccag
109201 ctgctctgga agctgaggca tgagaatccc ttgaacctgt gaagtggagt ttgcagtgat
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109381 tcatgaggtc aggatgcga gaccatcttg gctaacaagg agaaaccccg tctctactaa
109441 aaatacaaaa aaaaacaaaa ttagccaggc gtggtggcag acacctgtag tcccagctac
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109561 gatcacgcca ctgcactgca gcctgggcga cagagcgaga ctctgtctca aaaaaaaaaa
109621 aaaaatgtaa ttgatgtaat agtcccaaaa aagaacttgg cattaagtta aattataaaa
109681 tcagaaagct atgtaattta aatttgtatt caaatctgt atattggcat gtatattctg

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FIGURE 1AD

109741	tgccagttta	ttaaagatgt	tactgtatca	tgaagcttac	ttaaggcata	taatcgtctg
109801	cactgtaaaa	caaaactacca	aattaatgta	ctatctcaaa	gaattaaaca	tataacaatt
109861	ttgatgacca	cctaaattttt	agaacaactg	tttttttaaa	aaacttttta	ctatggaaaac
109921	ttttatatat	ataatatata	taaattatat	atgttatata	taatatatat	atgttatata
109981	taatatatat	gttatatata	atatatatgt	tatatattgt	atataaatta	tggttatatat
110041	aaattatata	cattatatata	aaagtataaa	ttatatgaat	tttatatata	tatatTTTTT
110101	gagatggagt	ctcactctgt	caccagggct	ggagtgcagt	ggcacagtct	tggtcacta
110161	caacctccgc	ctcctaagtt	caagtgatcc	tcctgcctca	gcctccctag	tagccaggat
110221	gacaggagcc	tgccaccatg	cctgggcta	ttttgtgttt	ttaatataga	tggtgtttca
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110401	acatacataa	aagtagagta	gtatatgaat	cattgtgagc	tcattaacaa	aagataattt
110461	cagttcactt	taaaaattga	cgtgtgaaa	tttggactca	tacattttgt	tttggcttaa
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110761	gtattttgcat	aaagaaatct	tgttttcacc	ctggcctaaa	tatacatcca	attttctctg
110821	caccttttag	gtaactcttt	tttaaggagg	gtgtgtgtgt	gtgtgtgtgt	gtgtgtatgt
110881	atgctgccgc	atgcatgtgc	atgtgtgtac	acgcatgtat	ggattttcat	ggtttttaaa
110941	atatagacat	aagtacaaat	acattttatt	ccccactctt	catacataag	atacataata
111001	ctgtatatat	cattctgtat	ttgtttttta	acgtttatgt	aggccattct	ggaaattttg
111061	tttcatacat	aattttttat	atatatacaa	ctacagttcc	attgtataga	tgtactatag
111121	tgtattttaac	cagtgtgtgt	tgtatggtca	ttcaggttct	ttctagactt	ttgatataca
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111241	gtgagataga	ttcccagaag	tatgcttgac	taggtcaaag	agaaatttgc	atltgtgact
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111361	ttcataccag	tagaatatgt	tatcaatttt	tttttggttt	tttgccaatc	tgataaatga
111421	aaaataactt	cactagtttg	ggtttgcttt	cctctgagtg	agactgaaca	tgttttcata
111481	tgtgtgaagg	ccatttctac	ttctgtttct	gggacctgtc	tctcatatat	ttttcccttt
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111661	tcacttttaa	tgtgtttgtt	ttgccactcca	aaagtttttt	tttagcttta	tgtagtgtaa
111721	tataatattt	ttttccttta	tgactgttag	atltttgcac	agagtataaa	agaccttttt
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111841	ccttcccttt	cttccttcca	gcattttaaat	atltgatcca	tttgtagttt	atltctggtat
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112141	aagaaggact	gatagatggc	ttgccttggt	aatagagcag	aaaaccaa	ttttgcctgt
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112621	catgccccaa	agttaagaat	accttcttaa	aagtaaaaaa	ttaaaaacaa	agataaaaaa
112681	gaaaaaaaga	atgccttctt	tagaaaagatt	tctatggtaa	cataggatag	gatacattgg
112741	atgtggttta	aaactaaaga	tcggtcacca	gtcaggaaat	tttggcatta	gtataggcgg
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112921	aacactgaac	cttgctccta	ggggaagtac	aaggattatt	attattttaa	tgagccaaaa
112981	aacccctctg	tatattggcc	tctaggttgt	ttcttccatt	acaacagggt	gagacctatt
113041	ggctttaaag	tgtgcttgca	ccaaactaaa	ttttttgtac	atctaattgt	tttaaatata
113101	atcctgataa	gcagattttt	agccactgag	agcctgccta	ctttgcagtc	cccacaaaac
113161	tgctttgtac	tcaacatcta	ttaggtataa	ataagatcaa	atcccaaggc	tataaagatt
113221	ccaagctgct	gttgcccttt	ggagctcttt	gatacataga	ctccctgctg	ggtgtgtctaa
113281	cattgtcagc	tagacatata	agctccctct	cctactcccc	tctccctga	gagtcacctt
113341	gccctcctct	tctgggtgat	agccactcca	cctcagcttc	tgccagctcc	tgtttgggta

FIGURE 1AE

113401	gtggccactc	tgccttagcc	tctggacagt	atgctttaag	gacatcctct	gcctgcagat
113461	ctgtcaatgt	cacccaataa	agctatgcat	gctactgcc	cctcgtggtc	atatcttttt
113521	ccttgatcag	acccagatc	cttcacattt	aaaatacagt	taggttccta	ccagcctcta
113581	gtcacatttt	catcagtcag	tcgatacgta	accttgtttt	gtgtgtgttt	ctgtttaaag
113641	acatatgttt	gattcattaa	cattgaaactc	acggctgaca	ttactataac	tcatgcctga
113701	aggaagctgg	cctaacacat	gtacttactc	tgccagggac	attatagcct	tcttatgctt
113761	accagcccta	aacagcacgt	gagcactatg	cctagggatt	attttaacaa	gaagaatcat
113821	caacaagaag	cacaaaagtg	agaaaaaagt	ggcaccaaat	aggctctgcc	caggatactt
113881	gttttatagta	tgaaaattga	aacaagaagg	caagagaaag	cttcactggt	caacctcagt
113941	tggagaggtg	catgcattag	gcgactcaaa	tatctcattg	ctctgcgcac	gtctatgaaa
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114061	tatggactcc	acaagtaatg	aggatcaact	gtaccatcca	gtctctttaa	tacttccagt
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114241	gattttggct	tgccgcaacc	tctgccttct	gggttcaagt	gattatcgtg	cctcagccac
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114361	tagagatggg	gtttcaccat	gttggtctaa	ctggtctcga	actcctgacc	tcaaatgatc
114421	caccacactt	ggcctcccaa	agtgttggga	ttacaggtgt	tagccactgc	acccaacctg
114481	gatagtttta	atggttatat	tgactaccc	tctgcgtcct	gtttttctg	gtcatagatc
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114601	tatttacctt	tacccctttt	ttttcccttc	tagcataaat	attcccaatt	tctttgaaa
114661	cttttggttt	gctaagcacc	tcaatttaaa	tgaatggaac	ttattgttac	aaactaacat
114721	tcccccttct	tcttacacct	cccaataaaa	actgtgtcct	ctgtattcac	actgcctcac
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114901	tttccctcct	tctctgtctc	tctcttccca	tgcatctttt	gctgcttcgt	atgttagctt
114961	cattctataa	cagattttct	cagtgtgggtg	gagaatatgg	ccattgaggg	ctccagattt
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115201	aaaagtagtg	acccttgata	gcttttctag	taccatgtgg	atctctagag	aagggaatat
115261	tcccagagga	aacaggggca	ccaaacaaca	aatatcaagt	atacatgtta	agacagggtt
115321	ttttcttccc	gctatgttta	gggccagtaa	gaggtctctt	aaggacagtc	agtgtgattg
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115801	<i>acagtctaaa</i>	<i>gaaagcactg</i>	<i>atgatgagag</i>	<i>gtctaattccc</i>	<i>agagtgtgtg</i>	<i>gctgtttaca</i>
115861	<i>gaattcagga</i>	<i>tggttatggt</i>	<i>ttgtatgtga</i>	<i>cgtgaaattt</i>	<i>tgtttaaaaa</i>	<i>gaaaatcaca</i>
115921	cattaaactt	tgaagttttc	ttaggatcct	taccaaacc	tagggaattg	aaagtgtact
115981	ttaggaaaaa	gtattaaaaat	aataactaagt	tagcctgaag	aaatactgta	ggccatatga
116041	ggagttaaat	aattgtatat	gactgtaggg	tttgttactt	tgatcaaatg	attttatttg
116101	gaatttgaga	ttcttacaat	ttttgaacca	ttcagagtgt	gatttatttg	gataatagac
116161	tcttaccocc	ctcccatttt	taatacaaac	tcatagtttc	acaaaaggta	tatcaaaatt
116221	aacattttat	attgacctac	ttttctttca	gaaagtgtct	aacattgttc	caagaccctc
116281	acattttgaa	tcctctttta	aaaaaaaaaa	attattttgg	gggcatgttg	tccctgtccc
116341	ttgagtactc	tttttccttg	aatggataga	taagtccgta	cctgtgattt	tttttttttt
116401	tttttttttt	tttgaccctc	aggaacaatc	cattttctgc	tggtgtaggg	cttttctgga
116461	gctgacttga	agaaaagagt	acatctcttt	accctgctgt	ttgtccaaga	gtgatacatt
116521	tatttggggt	aaacttaaaa	ttaattttatt	gccatttaaa	tttctaacga	tggaatatta
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116641	atgaggtata	tgaatatttt	taggtgtaat	aaccaagaaa	ggcttggtgc	tacatttttc
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116761	<i>catgtggaag</i>	<i>tgttggagaa</i>	<i>tgttccactt</i>	<i>acaacacaca</i>	<i>actttgtatg</i>	<i>tatctttaca</i>
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116881	gtgaaatatg	gatgagtaat	tttggaaactg	acattttacc	tgagttgaaa	tcagttgttt
116941	tccttaaaaa	cttgtattta	aacaagagtt	taattttaat	ctttataactt	tctttttaat
117001	ttaaaaaagt	aaaatgtatg	cattgttaaa	agataatttt	gaatagtgca	gaagtatgtc

FIGURE 1AF


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117121 tgttctgtct tccaaacttt tttctgtgta cacaaacgtg tgcttgtacc tgtaagccta
117181 aagttttttc ctttcttttt tttctctttt ctttcattac tttcttttct tttccctttc
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117481 tcttgacaca cttgtacaca cccttgtggt tctgaaggat aggttaaatg aaatagaatg
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117661 gagatgagga tctacataga acttgagaac ttatcccta aaatggcagg cagaagccaa
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119881 gcagtgagtc atgattgtgc caccatactc cagcctgggc aacagagcaa gaccctatca
119941 aaaaaaaaag aaaagaaaaa gaaaagtaga cttttgatgt tgaaatctat ttaatgtatc
120001 ataaaaaaat ttacatgtag cagaatagat taggaagttc taattcatgt tgtatatagt
120061 cagggttaagt agtgttgat gaatacagtt atatatggag tcataatgta aaatatcatt
120121 atttgtgatt aaaactctga aaaactgggc acagtggctc acgcctgtaa tcccagcact
120181 ttgggaggct aaggtgggca gctcacgagg tcaggagttc aagaccagcc tggccagcct
120241 ggtaaaatcc tgtctcattt gaaaatcttg tgagttgtaa ctggttttat acaaaatatt
120301 gaagagtgga aattgtataa ttacaatcat gtaattaaaa gtattaacca cccccccaa
120361 aaaaaaaacc tgtctctact aaaaatacaa aaattagcca ggtgtgatgg tgtgcgccta
120421 tagtcctagc tgctcgggag gctgaggcag gaaaatcgct tgaatccagg aggtggaggt
120481 tgtatgtgag cgagatcgct ccagtcgact ccggcctggg tgacatggag actctgtctc
120541 aaaaaaaaaa tctctgaaaa actgaaatga attaagaata tagaggccga gtgtgggtggc
120601 tcatgtctgt aacactctgg gaagacgagg caggcgatc acttgaggtc aggagtttga
120661 gaccagcctg gccaacatgg tgaactcca tctccaccaa aaaatacaaa cgttagctag

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FIGURE 1AG

120721	gcatgggtggt	gcatgcctgt	agtccccagc	tacttgggag	gctgaggcag	gagaatcact
120781	tgaaccagg	aggcagaggt	tgcagtgggc	cgagatcctg	ccactgtact	ccaacctggg
120841	cgacagagcg	agactccatc	tcaagaatac	agagcaaaga	acaaataatg	aaatagaagt
120901	caccatgct	ctcgccactc	tgaagtagcc	actcacatct	tgatatctat	tcttatattt
120961	tcttattatt	atatacacta	aataaatata	ttttaagcaa	tttctggctt	tagtgggata
121021	gattcttcct	agtgcagttc	tgttacgtga	ctcatgttct	acatcatttg	cctttgacat
121081	ggaattctta	acatgttgcc	ttctaagttt	cacctagaga	agtgttcaca	aataagttta
121141	tgtggcccaa	acattcta	cctctaagaa	attgatcatt	tgttagaaaa	aatagatcct
121201	attgtctttt	aggtgatttt	tctgtttctt	atttttttta	gtaagattag	gaagagctgt
121261	ttcaattttc	atatgattac	ttactagttt	tataaataat	tgtttttaca	tttttatcca
121321	aagttaacca	ttatgttttt	ggaccataga	tcagggggtc	tgattctgtc	agctattttg
121381	tttttgtttt	tgtttttagct	attatgtaga	ttgtatttat	agtctctctc	cctcccaccc
121441	ccaattccac	tctggaggaa	ttcactgtta	atttttaatg	gtttctgttt	taagctcttt
121501	tgggtgattat	tttcatctta	ctaaatacag	ttacacattg	cctgatgact	gggatatgtt
121561	ctgagaaatg	catcaatggg	gattttgtta	tgtgcttaca	caagcctaca	tggtatagcc
121621	taactataca	actaggctat	atggtagagc	ctattgcttc	taagctaata	acctgcacgg
121681	aatgttactg	aactgaatgc	tgtaggtaac	cttaacacag	tggcaagttt	gtgtatctaa
121741	acgtagaaaa	ggtacagtaa	aaatacagta	taaaagatca	aaaatggctc	acctgtgtag
121801	gataccta	atgaacagag	cttttaggac	tggaaattgc	tctgggtgag	gagtgggtgag
121861	tgaatgtgaa	ggcgtaggac	attactat	gttactgtag	acttttatga	taaacattgt
121921	acacttaggc	tacagtacag	ttttaaaatt	tttcttttta	aaaagtttat	aaagtaaaaa
121981	attttacatta	aactaagggt	taattttttt	taactttttg	actcttgaaa	taacagtttc
122041	aaaagtttaa	aaacattata	tagctataca	aaaatatttt	atgtgcttat	tctataaact
122101	tctattttta	aaatttttta	tttttctttt	ttacttttta	aacttttctg	ttaaaaatga
122161	agacacaagc	tgcacacggg	ggctcatgtt	tgtaatccca	gcacttgagg	aggcctaggc
122221	agacgcatca	cctgaggtca	ggagttcaag	accagcctgg	tcaacatggg	gaaacccttc
122281	ctctaataaa	aaataggaaa	attagccagg	cctagtggca	tgtgcctgtg	gtcccagctg
122341	ctcgggaggc	tgaagcagga	gaatcacttg	aaccaggagg	tggagggttg	agtgcacga
122401	gatcgtgcc	cagcactcca	gcctgggcga	cagagccaga	ctctgtctca	aaaaaaaaaa
122461	aaaaaaaaaa	aagacacaaa	catacacatt	agcctaggtc	tacacaaggt	caggatcttc
122521	aaggatatcac	taggcaatag	gaattattca	actcctttat	aatcttatgg	gaccactgtg
122581	gtatgaagtc	catgattaac	tgaagtgtca	ttatgtgaca	catgactgca	attatctttt
122641	agccacaatt	tcttgcttta	ttacttttag	atatcatata	ctgattactg	attgtataag
122701	gaatgtctc	atttatagtt	cttctctccc	ctcctctccc	ccaatatctt	tatttagtag
122761	tttttggttc	ttctattggg	tgcctttgta	actttaatat	atgcctttct	tgttccgtca
122821	acaccagtcg	gcatttctta	acctcccttc	tttgatgat	aattaaagta	taggcttctt
122881	cctttcacct	ctgtttcctc	ctccttttca	tgtctacttt	tacttttatg	ttgtcaagct
122941	tgaatcag	tgccagcctt	ttactcattt	ctcatttttt	aacttctggg	tttttaagtt
123001	agatagtggg	gtgggaaata	aatatgtgta	gtccatctat	tatcttgaac	ccccggtttt
123061	catcttataa	tagtacttta	gtatgtgagt	ttcatgatat	aaatatatta	caactttgtt
123121	atttttaaca	agagagtaga	tacgtcagtt	tctagaaagt	tttcttgtag	gtttttgaaa
123181	tctctgtgat	tttttacttt	gcaggtagca	aaaacgtttt	tcaccttagc	attttgtgac
123241	ttttgtcgaa	agctgctttt	ccagggtttc	cgctgtcaaa	catgtgggta	taaatttcac
123301	cagcggttga	gtacagaagt	tccactgatg	tgtgttaatt	atgaccaact	tgagtaagta
123361	atccaaaaat	atctcttttc	tacctaccat	tttacttta	aattttctta	atgtgaagct
123421	acgatgtcta	aaagtctgtg	agggtttttc	ttccatacga	ttgttataga	gaattttttt
123481	taagtgtagt	tagagaataa	tatgtggaat	ggacagtatt	tctctcccaa	attgtaatgc
123541	tggttcagct	atacagttaa	tttatatttt	atattatcgt	ttaattaatc	aagaccctta
123601	acccatagaa	accattttttg	gatagtttct	aggaggagag	ggagagttgt	ttcaattaaa
123661	ttaagcatta	tgatttttga	ccacagatca	ggtagtctga	ttctgttagc	tattttgtaa
123721	attacgttta	tattcttctc	ctctctcctt	catccccatt	cagctccctt	cccccaattt
123781	atttgagtaa	gatgtaaaa	ttttgtatcc	agtatatatc	tctttctaaa	atttctcttt
123841	gctgtatgcc	agtttttcta	atagattaga	ctgagtctat	tatctctttt	tgtgtcattg
123901	gtgctgctgc	tgtaaagtc	ttacttttct	tgatcacctg	agcaaataaa	acttaactct
123961	gtactttaag	taaattataa	tgtcacctaa	tttacagtag	atacttttta	ttctcattct
124021	ttaaccataa	agcatgattt	tcatcttgta	gtatgtagaa	atttgcgtga	ctgaatgatt
124081	agtttttaag	tataagcatg	cctttgaaag	tgcaatacaa	ttttttttta	aataagcctt
124141	tagacaaaaa	tacaactaat	tgaattttta	cagttgtttc	tgagaatgga	atttgatctc
124201	agtttttttg	gttaactatg	tatttttgga	tatgaagctt	ctgggttttg	cacaagttag
124261	gtttgttttg	ttttgcctca	cagtttgctg	tttgtctcca	agttctttga	acaccaccca
124321	ataccacag	aagaggcgctc	cttagcagag	actgccctaa	catctggatc	atcccccttc

FIGURE 1AH

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124381 gcacccgcct cggactctat tgggtatggt ttgacttctg ctcttgggcg acatgctact
124441 tgaaccgctt tcttttggat ctcttggtta attagaaacc tttccaatgt ttaaattggt
124501 aaattaagga ctttttcccc aaataactta tcataccact cagatattta catgcatttg
124561 atacaaataa atgggattaa agctgacata gactatttca gaatcagtcg tgaaaaaatc
124621 aatattgggt atgatttgac ttctgctctt cagtgcacatg cttcttgaac tgctttcttt
124681 tggatctcct ggtaattag aaacatttcc aacattttaa tgcttaaat aaggatcttt
124741 tccccaaata acttatttta tcacaccagt cagatattta cttgcatttg gtacaaataa
124801 gtgggattaa agctgacata gactatttca gaaccagtcg tgaaaaaatc atgcaacaga
124861 tcattttgag tctacacctt gagttcatct tttattaggt atagaagtat atgacttcca
124921 cttatgaaga agcattgata tgtgagacaa tggcaacaa tgtaaaaaata gtatataatt
124981 ataacttaca atttatgatg gagtatattg aagtatgtga tgaggacata aatgtattca
125041 tgtttacaga aggaagaata gtgaggaaaa agagagtgtc caggaaaact taatgaagaa
125101 ggtgggtattt gaactagact ttaaagaatt actacaatct gaacgggcct agggaataga
125161 agcatggtga aaggggaatg gagaacaac agataaaaag ggaataaaca gatataaagg
125221 gaatgaagat gttaggttta gaagctagtg aagaaagggt tatctaactt aagaactacc
125281 atgtgtaaaa ccagattatg gagagtcttg gaattgaggc cagaatttag acttaagggt
125341 ctttaagcag attactaact tgatgaaaat ggctttaaag aaaaaatcaa tttagcgtga
125401 aatacacatg gattgacaga aaatttaggg tgaagaaggc caacctagga tgttgttggt
125461 agtgaaaact gagagaggca gtgaagacaa gttcaagtgc tagaagtatg gaaaagggat
125521 agatattcat aaagcgtaaa agaaaaaaat gaacagtatt attaatcagt tgaggataaa
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125701 ctggccaaca tggtgaaacc ctgtctctac taaagataca aaaaaaaaaa aattagctgg
125761 gcattgatggc acacacctgt aatcccagct actcaggagg ctgaggcagg agaatcactt
125821 gaacctggga ggtggaggtt gcagtgcagt gagatcgac cattgcactc cagcctgggt
125881 gacaggtgag attctgtctc aaaaaataa aaataatgca aaggcgcat ttaagcttca
125941 tagtaggaaa taaaaaggaa gacacaataa agatgagtta agtgggtatc agtttacttt
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126061 agaattacag gcgtgagaca ctgcacctaa tttagctttg aacattttct acacagggtc
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127261 ctgtaaagat agaagccaat cttgttcagt atcaaaactc ttttgcaagt tgttactagt
127321 cctgataaca ataataatgg tcatgaaaca agtgaataa tggatgtaat caagaaatat
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127561 actggtaatt tgctgaaggg tattataatt aaaattcctt ttgtctttaa tttggtagtg
127621 ctttaaagag gtttactgca agataggtac aggtatcatt gggagaaagc cagtttgccg
127681 actgccaaag tacttcatag ggtataagtt accttggtta gtggaaaaat ttcccagtat
127741 ggtaatgtaa ttttatcgat tcccagaaat gatgagattg ggagttatac tggtttgtat
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127861 taactgttta tgtaaattag acttctgtg ttgtgtgctc caccactcac tcttcttttg
127921 taagagattt atgggaaatc aaattataat cagaagactg ttttcgttaa gcatagaatt
127981 aggacatggc tgagatatct aRtgacatca gattatgatc acttcaagtg ttcccttgta

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FIGURE 1AI

128041	cttgccctga	aagctagaga	agttgacttg	gtggaccaag	acacaactat	tagataccaa
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128161	tacattcttt	agatatgata	gtgaagtgtc	ttagattaaa	tctgggtttt	gtttttcttc
128221	tggaccaatg	tcttttgcat	acttaactct	gatttgttat	ctactacatg	tttctgtcat
128281	attcctaact	tggtgagttt	cagaagtgtc	ttactgccat	ctctgcctat	cccagatcaa
128341	ttattacagt	agactatctt	atgcaattct	agttattcat	actttttcca	attttaagcc
128401	tttttttttt	ttttttaaga	tggagtctca	c ttgtgcacc	caggcgagtg	cagagacgtg
128461	atcttggtct	actgcagtct	ctgcctccct	ggttcaagtg	attctcctgc	ctcagccccc
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128581	gagacaggg	tttactatgt	tggccaggct	ggctctgaac	tcttgacctc	aggtgatcca
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128701	ttgagacttt	aaatcagcct	gtaaatgggt	gtcagtcagt	cagtgccttt	tctaaaactt
128761	tattgactaa	tgctattttt	gcattctttt	tctgtctcct	aaaattttct	agctatagac
128821	atatatttgg	ctacctaaag	caaaaataaa	gacagctctg	tcagaaacca	aaagtttctc
128881	aataatcaga	aaaaataaaa	aggacctaga	tggaaacatgc	taattttcct	aaaggcttgt
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129001	tatttgcata	tcaattctaa	gtggattcat	ttcattaata	taaacacatg	aagtcaaaac
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129121	agattctgac	atgtttttatt	cagagactga	c ttctactgt	taggcttcct	tggtctttca
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129241	gtcttttttt	tcctcaaca	ttgtctttct	agctgtgtct	tagtaaccac	tagtaattag
129301	tttgcataaa	atagggtgga	atgataacca	atatgtgaag	agagcttatt	ggcacttagc
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129421	atttccccac	tcctaggata	ccctttctga	ggggctacat	ccttccaagt	gtttacaatc
129481	tagtctcaaa	acttttagtgt	tctctgtgtg	tgccagggtc	atttttaggg	gagatatcat
129541	agactatgtt	atttagctac	cataccgaaa	taggtatgta	acataatttt	gtgattttcc
129601	aaatagcata	caaagtgaac	attttgggtg	ttttccaaat	agcagttttc	aaaaatattt
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129721	aaatccagaa	tatgagagat	attggcactc	tgaggatcat	c ttctgaatt	tgaaaaggat
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129841	gtcctgaaat	atgcatttgt	attctcaaaa	tattttataat	ttcttaatat	gtaaaatttt
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130261	ctctgaatct	tatcttccaa	tgacttcatt	tttccaggcc	ccaaattctc	accagtccgt
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130441	aacctgtcaa	tattgatgta	agtatccagc	attgctagaa	ctaaaaaaaa	accaagtatg
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130561	atcacagtta	ttttaagtga	taagcttctt	gtgaatcaca	aatcagaaaa	gcttctgggt
130621	tctctctgat	gacattaaat	atttctactga	ctccagggtta	tacagtcaat	ctgatttttt
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130981	gcatggtgag	gcatgcctgt	agtccagctg	actctggagg	gtgaggtggg	aggattgctt
131041	gagcccagga	ggtcaaggct	cagtgagcct	atgtttgcac	cactgcactc	cagcctgagc
131101	aacagagtga	gaccctgtct	caaaaagaaaa	gaatttcaat	ttgtgctatc	ataagcttgg
131161	cattatgacc	aacaaaaact	tgattttttc	tgtgtttatt	ttaaaattag	catataattg
131221	aaactataaa	ttttattaaa	tattaatata	aaagaaaaac	ttataaattt	taattttgta
131281	atttttaggta	aatttgcaaa	tcagactttc	ttcccacttt	ttactaagaa	attttctcta
131341	tttttattgg	gttcattttta	agtgactttt	ttctagtact	agttttcctt	aactagcaag
131401	gttcacctct	atctagcaag	acctaaaaac	aaaggaagaa	aggggaaag	gagaattgtga
131461	tataagaat	caaacctat	gtccaggtta	gggtgttct	cagctgtctc	aaaattgcaa
131521	ccttcatctt	tactttgaaa	actatcatcc	ttttagacta	ttcccttttt	ctctgattgt
131581	taccactgtt	ccctgggtatg	ttgggcttca	tttagagtgt	catctttgta	tcttgccctt
131641	tcactctctc	tcgtaaccag	tcacagggtta	tcaccttttc	atgtgcatct	caaactgggt

FIGURE 1AJ

131701	tttactttatt	accgctgcca	tttggggccca	tatttttttca	cttgaattat	atactacatt
131761	aatctcctaa	atagatttttc	tgccattgat	ttctctctat	ctattttccat	tccttctgca
131821	actgtcagaa	ttttttttaca	cttctagcat	catctgttct	cttgttccaa	aacttttagt
131881	gactttactgt	tgattacaag	gtaaagtgca	aactcttttag	cattttttatt	catgttcaag
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132001	attgggaatt	atttatgaat	tagcacatgg	cctttgccct	caaggaagtc	acagtcta
132061	agggtgaatca	aacattttaa	tagataatta	caaaatatat	aatggtagtt	tagagaagg
132121	ggtaataaac	tccatctgg	tggatctagg	aacattgagc	agagaaggga	caacctttaa
132181	gccagattat	ggtgaataag	taggagtaca	ctacataagg	gggttaggaa	agtcatttgt
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132361	ctacagtga	aggctttgtg	tattactctg	aaatctaaag	cagtgtcagg	gaatctgaag
132421	aatttttgatt	gggagaggaa	gtcatcagct	ctatatttta	gaaaaatctt	tgatggtaga
132481	gtggaggata	gatgaaatgg	gaaacacata	gaggcaggac	tgtcaRtaat	gtggttttta
132541	cagtattttca	gacaagaaat	gatattttaa	ctcaagtaat	agcattgggtg	ctgagaaaga
132601	gtgtgttttg	gggagggaga	ctatgaatta	gtgaattagt	ggtaagagtc	ttaggaatca
132661	tgttgaaaat	gactactatt	tatgaatact	tattacatac	agggtactatg	ctaagtgtt
132721	tacgtagact	ttcttattttc	atcctcataa	aaactcatag	gttatgtact	atgattatct
132781	ttatttttact	gttaagaaaa	ttagattttac	agagggttaag	aaacataccc	agattacact
132841	gctgataaat	tactgaagtg	ggttcaaacc	tggcctttct	ctcttacact	taaccactat
132901	actgtttttgt	agtagaggag	aggagtga	aatatgagaa	gtagaggata	atgccagggt
132961	tctggccttat	agatacttag	cttatagacc	gagtttctgg	taaatagcac	agtttgttaa
133021	ataccaaagg	aaaacaaggt	ttgcagaagc	agcaatttta	gctttttggg	ggcatatatt
133081	gactttaaga	tgctgtggg	actttcaggt	ttagaaatcc	agtagcagtt	ggatataagg
133141	accttgagta	gagatacaga	tttaggagta	attagcatat	ttatgtcagt	taaagccatg
133201	gatgtaaatt	gctcaaagag	catatgtaaa	ttgaaaagg	gagaaaatgt	aaccctgata
133261	aacattaaca	ttggaggtgc	aggcagagac	tctctgtctc	ctttatgggc	tggtctcttc
133321	taagtctagc	cccagataac	taagaacaag	tggtgcagaa	gccaaaggaa	gaaaagggtg
133381	ttcaagaata	ccaaagtagt	tggtgtcagt	tgccattacg	attcaaatga	gataaaggact
133441	gaaaggacta	tcaatttttg	caattgaaat	gtcatcttta	cttcattgag	agctgtttta
133501	gagggccagt	aagaggagaa	ggcagcaggt	gaggaagtag	gattaagtgt	taattttgag
133561	aagcttggct	gtgaaggaa	gacaaaagag	gatagcttga	ttcagggttg	agggacaatt
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134941	caggaggcga	agggtgcagt	gagctaagat	cgtgccattg	cactccagcc	tggttgacaa
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135121	ttcacttact	tccaatgtgt	gcatcttact	tcccatgaga	ttgtaagctc	tcaagaatgg
135181	aaagttaatg	acatcactag	gattttttata	tttgtagta	gccatataac	tctgtcacc
135241	ttcttttcag	gtacgtat	gatttttctg	tagaaaatgt	tgaagacttt	atatgataca
135301	ttaa	acatga	tagaaataca	tctttaaaga	atttactttg	tttagcctg

FIGURE 1AK

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135481 agtaagcact gtccccacta ccatcggtgt tataaagagc taaatatata tatagttttt
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138961 tttgaaccag ctgatgcgct gtcttcggaa ataccaatcc cggactccca gtccccctct

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FIGURE 1AL

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142561	ctaaccatcc	ttctgagcaa	agtatcacia	ggacagaaaa	ccaaacacca	catgttctca
142621	ctcataggtg	ggaattgaac	agtgagaaca	cttggacaca	gggcagggaa	catcacacac

FIGURE 1AM

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

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144601	ctaataacat	ataatgtcac	ttttgagtga	cataattaag	ggaatTTTTt	tataccttca
144661	aaatgtcttt	aaacttttct	taagtgtgtg	acagtatttt	atgatacaaa	cagtagaata
144721	agcactgtat	tactttgata	attgagaaa	atcaatgttg	atttaactta	ttaaaatata
144781	catacaggtt	gagtatcttt	atTTTtttat	ttttgtttgt	tttgTTTTgt	tttgagacaa
144841	ggtctcgctc	tgtcgcccag	gctggagtgc	agtggcacia	tctcaactca	ctacaacctc
144901	tgcctcccag	attcaagcag	ttctcctacc	tcagcctcct	gagtagctag	gattataggc
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145561	ctcccatgtc	ctcttctagc	caatcacctc	tctcccaagg	gtaaccacca	ctgtgattac
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145681	aagattcatc	tatatgtttg	tgtgaagttg	gaggtcattc	attctcttta	cagtatttca
145741	ttgtgtgact	ataacatgat	ttcttctttc	atctgttgca	attggatcgt	ttccagtttg
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145861	aaccattgat	gggtatatat	acctaggaca	gaattgtgag	accacagggt	atgcatatgt
145921	ccagtttttag	taatgctgcc	aacaatgtta	caaagtagtt	gtaccaattt	aaacacctac
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146041	aaatatcatt	ttctTTTTtt	attattatta	tacttttaag	tttttaggga	catgtgcaaa
146101	gtgtgcaggt	tagttacata	tatatacatg	tgccatgctg	gtgtgtgcga	cccatgaact
146161	cacatgaagt	tttttttaaa	ttttagtgc	agtttttagtc	attttctctaa	ttgaaagtat
146221	cataagtaat	ccataaaatt	gaaaaaaatg	ttaaactact	tgataaaaaa	gttttatagt
146281	ttcctacttt	taagcaaaat	tccatagggc	Mtggttaattg	tagtttcaac	attacttgca

FIGURE 1AN


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146341 gtttcagtta gtaaataaat attaagccta gtaagtataa tttaatattg tcaaataatt
146401 tggaaaatac catgggtact taattgattt taccaaattt ccatggaaca aacaagggtg
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149881 ttattgatag atttaccttt cagaagaaag agatgccaaa tccttctcac atcacagctg
149941 agaaatgtgg ctgggcatgt tggctcacac ctgtaatccc agcactttgg aaggccaagg

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FIGURE 1AO

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

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FIGURE 1AP

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154321	agaaaaagtt	acagcctatc	gatatattta	cagaagcatt	atattctcaa	aataagatga
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156481	gctactgcag	ttttttttaa	atttcaaaat	catgttacga	ggaaatatgt	aatcattata
156541	ggaaattcag	aaaatgtaaa	cataaataaa	aagcaccagt	aatccaccat	caagagataa
156601	ctgtcattaa	tattttgatg	tgtatttgtg	atcctttcag	aatgatgtgt	tttaatacta
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156721	tatctctact	ggtcaataaa	tatctgatac	cagctctgct	acatactgtt	aactcactgt
156781	ctcccccttt	tctttatgcc	aactatgttc	tgtgggggtt	cttaaaatat	actgtaatgt
156841	atthagcaat	gatatgcact	tactatgtgt	cagacattct	gtgtacttta	tatacattac
156901	ctcatttact	cctcaacaac	cctgtgaggt	tgcagctttt	attatatact	tgttttatgg
156961	atgaagaaac	ctggttatgg	aaggggcaag	taacttgccc	caggtacttc	agctccaggg
157021	tgtattcctt	taaccattaa	agcatgttgc	ttccccaa	tattcagtc	cttcgaaaaa
157081	ttcaagtaga	cccttaattg	tatagggcag	ttacactttc	agtttcttag	ttcattcact
157141	gtcctctttt	agacactgtc	ataccgcctc	aaaacctcat	atccttaagc	ctctaaaacc
157201	tcttcttcaa	gaaatcagcg	atgacattgc	ttgcatctc	tttaagacag	ttggaagtaa
157261	ccattatgac	atctaccac	ctgcctgcat	tcataccagg	ttcttctgcc	ttatcactag

FIGURE 1AQ

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157321 taaaagccaa tccctccatt tgtacactag attccatccc cttaccoccta cccagagaca
157381 tcttttgagt aaatctccca tcttgtttat catcagtttt tcctttccta ctgaattttc
157441 tcctatttta aaacatcttt tggctgggca cgggtggttca tgcctgtaat cccaacactt
157501 cggaagctg aggcgggtgg attgcttgag ctcaggagtt caagatcaga ctgagcaaca
157561 tagtggaacc catctctacc aaaaaatata aaaattagcc aggcgtggtg gtctgtgcct
157621 gtggtcccag ctacttgga agctgagaca agtgatctc tagagcctgg gaagatgagg
157681 ctgcagagag tcaagatcgc gccactgcat tccagcctgg gtgacagagc aagactctgt
157741 ctcaaaaaata agtaaaaaa taaaacatct ttcactgagt gcagtggttc acacctgtaa
157801 tcccagccct ttgggaagct aacgtgggaa gatcacttga gctcaggagt tggagaccag
157861 cttgggtaac agagtgagtc cttgtctcag aaaactaaag taaaatttaa aagtagggca
157921 ggtgtggtgg ctacacttg taatccaagc actttaggag gctgaggctg gtggatcact
157981 tgagcccagg agtttgagac caccctaggc aacatggcaa aaccctctc taaaaaaat
158041 acaaaaatta tccagatgtg gtggtgtatg tctgtggtcc cagctactcg ggaggctgag
158101 gttgcagtga gtggagattg caccactgca ctccagccag ggcgacagag tgaaacctgt
158161 tctcaaaaaa aaaattaaaga agtaacagta ataatgaaac atctttctta tgcacatttg
158221 gcagaatggt gacatttggt gaatctatgt ggaagggtgt tgggtattct ttdcattttt
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158581 cgatagttta ctgagaatga tgatttccaa ttcatccat gtccctacaa aggacatgaa
158641 ctcatcattt tttatggctg catggtgtat atgtgccaca ttttcttaat ccagtctatc
158701 attggtggac atttggttg gttccaagtc tttgctattg tgaatagtgc cgcaataaac
158761 atacgtgtgc atgtgtcttt atagcagcat gatttataat cctttgggtg tataccagct
158821 aatgggatgg ctgggtcaaa tgggtattct agttctagat ccctgaggaa tcgccacact
158881 gacttccaca aaggttgaa cctgttggtt cctgactttt taatgattgc cattctaatt
158941 tctccatata ctctccagca cctgttggtt cctgactttt taatgattgc cattctaatt
159001 ggtgtgagat ggtatctcat tatggttttg atttgcattt ctctgatggc cagtgatgat
159061 gagcattttt tcatgtgtct tttggctgca taaatgtctt cttttgagaa gtgtctgttc
159121 atgtcctttg cccacttttt gatagggttg tttgtttttt tcttgtaaa ttgtttgagt
159181 tctttgtaga ttctggatat tagccctttg tcagatgagt aggttgcgaa aattttcttc
159241 tcttgtaga gttgcctgtt cactctgatg gtatgttctt ttgctgtgca gaagctcttt
159301 agtttagtta gatcccat tttccatttt gcttttggtt ccattgcttt tgggtgttta
159361 gacatgaagt ccttgcccat gcctatgtcc tgaatggtaa tgcctagggt ttcttctagg
159421 gtttttatgg ttttaggtct aacgtttaag tctttaatcc atcttgaatt aatttttgta
159481 taagggtgaa ggaagggtgc cagtttcagc tttctacata tggctagcca gttttcccag
159541 caccgtttat taagtaggga atcctttccc cattgcttgt ttttctcagg ttgtgcaaag
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159781 atgctgggtc ttttttggtt ccatatgaac tttaaagtag tttttccag ttctgtgaag
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160141 tgtacattga ttttgatatc caagactttg ctgaagttgc ttatcagctt aaggagattt
160201 tgggctgaga cagtggggtt ttctagatat acaatcatgt cgtctgcaa cagggacaat
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160321 gccagaactt ccaacactat gttgaatagg agtggtgaga gaggcctacc ctgtcttggtg
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160501 gtttttagca tgaagggttg ttgaattttg tcaaaggcct tttctgcata tattgagata
160561 atcatgtggt tttgtctttt ggttctgttt atatgctgga ttacatttat tgatttgcgt
160621 atgttgaacc agccttgcat cccagggatg aagcccactt gatcatggtg aataagcttt
160681 ttgattgtct gctgatttcg gtttgccagt actttattga ggatttttgc atcaatgttc
160741 atcaaggata tcggtctaaa attctctttt ttggttggtt ctctgcctgg ctttggtatc
160801 aggatgattc tggcctcata aaatgagtta gggaggattc cctctttttc tattgattgg
160861 aatagtttca gaaggaaatg taccagttcc tccttgatc tctggtagaa ttcagctttg
160921 aatccgtctg gtccctggact ctttttggtt ggtaagctat tgattactgc cacaatttga

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FIGURE 1AR

160981 gatcctgtta ttggtctatt cagagattca acttcttctt ggttttagtct tgggagagtg
161041 tatgtgtcga ggaatttatc catttcttct agattttcta gtttatttgc atagagggtg
161101 ttgtagtatt ctctgatggt agtttgtatt tctgtgggat tgggtgggat atcccctta
161161 tcattttttt attgcatcta tttgattctt ctctcttttc ttctttatta gtcttgctag
161221 tgggtctatca attttgttga tcctttcaaa aaaccagctc ctgggccagc cgccccgtcc
161281 ggggaaggagg tgggggggtc agccccccgc ccagccagct gcctcgtccg ggagggtagg
161341 ggcgcctctg cccggccgcc cctactggga agtgaggagc ccctctgccc agccagctgc
161401 cccgtccggg agggaggtgg gggggtcagc cccctgcccg gccagccgac ctgtccagga
161461 gggaggtggg gggggtcagc ccccgcccg gccagccacc ccgtccggga gggaggttgg
161521 ggggtcagcc ccccgcccg ccagccgct cgtccgggag gtgaggggag cctctccccg
161581 gccgccccta ctgggaagtg aggagccct ctgcccggcc accaccgct ctgggaggtg
161641 taccacaacag ctcatagaga acggggccatg atgacaatgg cgtttttgtg gaatagaagg
161701 aggggaaaaag cggggaaaaag attgagaaat cggatggtt cgtgtctgt gtagaaagag
161761 gtagacatgg gagacttttc attttgttct gtactaagaa aaattcttct gccttgtgat
161821 cctgttgatc tgtgacctta cccccaaccc tgtgccctct gaaacatgtg ctgtgtccac
161881 tcagggttaa atggattaag ggcggtgcaa gatgtgctt gttaaacaga tgcttgaagg
161941 cagcatgctc cttaagagtc atcaccactc cctaacttca agtaccagag aacacaaaca
162001 ctgcggaagg ccgcagggtc ctctgcctag gaaaaccaga gaccttgtt cacttgttta
162061 tctgctgacc ttccctccac tattgtctta tgacctgcc aaataccct ctgcgagaaa
162121 caccacaagaa tgatcaatta aaaaaaaaaa aaaaaaaaaa acagctcctg gattcattaa
162181 ttttttgaag ggttttttgg tctctatttc cttcagttct gctctgattt cagttaattc
162241 ttgccttctg ctagcttttg aatgtgttgg ctcttgctt tctagtctt ttaattgtga
162301 tgttaggggtg gcaattttgg atcttctctg ctttctcttg tgggcattta gtgctataag
162361 tgtccctcta cacactgctt tgaatgtgtc ccagagattc tggatgttg tgtcttgtt
162421 ctcatgtgtt tcaaagaaca tctttatttc tgcctcatt tcggtatgta cccagtagtc
162481 attcaggagc agcttgttca gtttccatgt agttgagtg ttttgagtga gtttctaat
162541 cctgagttct agttagattg cactgtggtc tgagacacag tttgttataa tttctgttct
162601 tttacatttg ctgaggagag ctttacttcc aagtatgtgg tcagttttgg aataggtgtg
162661 gtgtgggtgct gaaaaaatg tatattctgt tgatttggg tggagagttc ttagatgtc
162721 tattaggtcc cttggtgca gagctgagtt caattcctgg gtgtccttat taacttctg
162781 tcgcgttgat ctgtctaag ttgacagtgg gatgttaaag tctccatta ttattgtgtg
162841 ggagtctaag tctctttgta ggtcactaag gacttgctt atgaattctg gtgtcctgt
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163261 attagctggg tattttgctc gttagttgat gcagtttct cctagtcctg atggtcttta
163321 cattttgcca tgattttgca gtggctggta ccacttgct ctttccatgt ttagtgctt
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163561 tagagtttct gctgagagat ccgtgtttag tctgatggg ttcctttgt tccctttg
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163681 gttatgtgtc ttggagttgc tcttctcaag gagtatctt gtggcgctt ctgtatttcg
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164161 cttaatcctg cttctctctt cagttattac ctcatctctc ttcttctt gacagtaaaa
164221 cttctcaaaa gacttgttgg tattcactgt ccagttgctc tcttcttct ttaatttgg
164281 ccccatcaca accaggcttt tgcccctgct gctccagaaa acatctttt tttttttt
164341 tttctctctc tcaaggaaga gtctcactct gtccctcagg ctggagtaca atggcatgat
164401 ctcagctcac tacaacctct gtctccagg ttcaagtgt tctcctgct tagtctccca
164461 agtagctggg attacaggtg cacaccacca ccccagcta attttgtat gtttagtaga
164521 gacagggttt cactatgttg gccaggctgg tctggaactc ctgacctcaa gtggctgcc
164581 catctcgga tcccaaagt ctggaattac aggcattgat cactgtgcct agccaggaaa

FIGURE 1AS

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164641 cagcgtctta atatgatagt tactggtggc ctccatgttg ctagatccag cagtaaaatt
164701 ctcagttccac agtttatttg acctgtcaga aacatctgat acagttgatc acacacttct
164761 tcatgaaaca ggttcttaat cccttgttta attgtgttct tagtttcttg ctgctcagaa
164821 tgtggtctga gtagcatctg taccacctgg gagcctttta gaaatgctaa gttttagata
164881 ccaccccgaga cctgaatcaa agactgcatt ttaacaagat ccccaaataga ttctgtgtcca
164941 tattaagtg tgagaaacac tgctttcagg catattctcc tgattaccct tctactcact
165001 gtctactcct cagctggttc ctccctctcct tctttgggtg ttctgtggtg gacaagtcac
165061 ttaaaatacc tgtaatcagg gccgggtgtg gtggctcacg cctctaattc cagcagtttg
165121 ggaggccaag gcagatggat cacttgagg cgggagttca agaccagctt gaccaaattg
165181 gtgaaacccc atctctacta aaaatacaaa attagctgga cgtgggtgga cttgcctgta
165241 atcccagcta cttgggaggc tgaggcgga gaatcacttg aaccgggag gcagaggttg
165301 cagtgaacca aaatcgtgcc attgcactcc agcctgggtg acaagggcaa aactccatct
165361 taaataaata aataacctat aatcagaacc agcaatacaa agtattatca aggataaaga
165421 acaactggaa ctctcatata ttgctggtaa agattttaaa tgatacagcc attttaggga
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165961 tgcattctgt gtgtaaactg tacctcagta aatttcagtt tttaaaagtg aaaaatacct
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166081 ccaggagttc aagaccagcc tgggcaacat agtgagacc atctatacaa agcagttttt
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166261 ccagcctggg caagagagca acaccctgtc tccaaaaaaa aaagtgaagg aaactaaaaa
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168121 atatatggca aagtaaagtt gatataattc tgttcccttc cctactccca aacagttatg
168181 tgagttatgt gttttctgtt atttttgttt gggttttttt tttggcattt tccattgtaa
168241 ctgggtggtg cttaggaaat tacgttttag tgtcccccta tatagaatta tttagggtag

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FIGURE 1AT

168301	tgattactgt	gaaacattat	cttatgtagg	gattcggttg	tgtotcatcc	catttctcta
168361	gctgggggat	tagacccctt	tttcttccca	gcctttcatt	ctacagacct	ggacttctac
168421	tcttttgctgc	ttttgttaca	gaaggattac	agaaagagaa	ttattcaatg	agataaaaaat
168481	taacaaagca	gtttgtaagt	aataaaggat	tacacaggta	taaagtgttg	tttcagggtg
168541	tattttttatg	caactcggcc	tataacaaat	ttatgctata	taacttctat	gctgggtata
168601	tcactggttc	cccaattaca	tttatatctt	gttaattatc	tagtgctttc	ctggtcagaa
168661	aattttctctc	cccactctcc	ccagttacat	ttctgtctac	tctattcttg	ctatattcct
168721	ctgcatcaaa	tttggtgaaa	ggattaacac	catcccatgg	agaacacctt	tatcttcccc
168781	tcttttatct	tcagcatgcc	tctgtatttt	gatatggttg	aagcccattt	gtttttgttt
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168961	ccctttcttt	ctaattggaga	caagatctca	ccatcttaaa	gctttgattg	gggcccattt
169021	atttccacca	gttttttaact	ttgtatgtca	ctgcagaact	ttgtaagcag	tgagacctat
169081	aaccgaaata	acattttctt	tcagtgaag	agtgacaata	tgatgtagaa	cactgagcct
169141	aaagtcagta	caagataaatt	ttcaattgta	gtaaatgcta	tgaagaacat	aaactgtgat
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169381	atgattttga	ttataaccatt	tggattttta	attctcattt	taaggtaaaa	ctgtctaattg
169441	atcattgtca	gatttcagaa	gtgtcatata	gctattctct	ccggtattca	attaagaaaa
169501	ataaccttga	ctagcacatt	atatgcattc	tattgtagtt	gattcagtag	acatgtattg
169561	aatacttacc	acacatacca	agcactgttc	tcggcactgg	gtatacaaa	aaataaacc
169621	gacacagccc	ttttgagaca	ggaggatctc	ttgagcccag	gagggtggagg	ttgcagtgag
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169981	aacataggca	cgttgaaaaa	acacatgaat	caagccatta	ttatgataat	tactacataa
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170281	ctagtataag	ataaagcaaa	gtcttttaat	agaaaaacaag	attttgactg	taccattata
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171781	aaaccagttt	cagtgtattt	caaacaaaaa	tatatgtctt	ataaacagtg	tttcatattt
171841	tattctaaat	tgtttaaagt	attttgtgtt	caaaatgttc	tgtgtaccct	gttgaaaaaa
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FIGURE 1AU

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FIGURE 1AV

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FIGURE 1AW

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

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182821 ctctgttggc cagtctggag tatagtgtgg catgatcttg gctcactgca acctctgcct
182881 cctgggttca atcaattcct tgcctcagcc tcccacgtag ctgggactac aggcacatac
```

FIGURE 1AX

182941 cgccacaccc agctaatttt tatattttta gtagagacgg ggtttcatca tcttggccag
183001 gctggtcttg aactcctaga cctcatgata caccctcttc agcctcccaa agtgcctgga
183061 ttacaggcgt gagtcaccac gctgtgcttc ttttaagaatt ttttttaaat atgtatgtat
183121 gagtcacaat ctctctgcct gagcacccat agtctcattg gagaacttag ataagataca
183181 tatcacaaaa agattaataa ccatacaagg cagtaaatga tcatcacagc tagtgggtggg
183241 aagaaggacc attattactt ctagggtgtg aaagaaagggt atgataagca tggttacctt
183301 tcagtttaggc ctgatcatct gggtttcagg tagctagaga agggtagagg agggcattat
183361 aagcagagta ggagcagcgg caataaaaaa gttaaaagta gctttgtatt gggatagtct
183421 tctctacaaa tctgttact tacttaactg tattatctcg ggcaagttac ttaatttatt
183481 tgagcattgg attccttata tgtaaaacag agtcaacacc aaccttgtag aattcctttt
183541 tgagtattag atgatatcta gaatccaagt gtcccaacgt tttttggcct ttcagggccca
183601 ccttttccac tgatagccaa gtaagaatac ctgaattgct gtccataata tatgactata
183661 ggaactccag atcctttctc tcaactttga agaccctgt tgaagtgtc ttacattctc
183721 ctggctgttg cttgtcactt gttgtctcaa catattatc cagggtgtc ccaaaattct
183781 aagactgctg tcttccatta aaatgatgat gttatgatgg tgtagcttca gtagggggca
183841 ttgtgaaaga aaactgtaat cccctcaatt cagtaactct ttccaaggtt catcctttaa
183901 cctctactac atagaggcca cattgcaatc aaagctttac taatgcctgg cagttaaaca
183961 agggtcatta cagcaccaa caggaaataa cacaatgtat caagcttggc ggtttctaaa
184021 attcatcagc tctgccctgt agcagggatc ttttatgggc tttctccact ttagcctcta
184081 ctctccccct gttgcacctt tccctctaa gacaaaagc ccttctctca ggctgtcctc
184141 cctgagtcac aagactccta acatctatcc ctgctgccc tcaaaaggag caaaatatta
184201 ggaacttaag aaattagaaa aaatttaaaa tctctgaatc cagggaagac aagccttttt
184261 atttcgttaa acagatttta gctcctaatt gcttccccct ctctcctctg gcggaggctc
184321 tggtttgtat aaccaagtgg ccatttagcg tttccacaat aaaagggtt aagatgcaga
184381 tgccaaaacg actgctaaaa tgtaaactt tttggtttc cctacacata tatagaggac
184441 ttaacacaac gtccaacaac aagaagtgt gaataaattt ttttttttt taaagtaaa
184501 aagaggcact gtcagatctg ttttagatgg ttaccctgtg agtgggaaaa tggactggat
184561 aagagagac caaaagcagg ggagcaatta gagaacctt gccacagtcc aaggatcatg
184621 aagatttgag cttgcactcc tttgtgggt tcccaccat ctatgatgtg ctattgggtt
184681 tttaaaactt tttattgagg tgtaatacat acatcgtaag ctgtaaatgt acagcttatt
184741 gtgttttcaa tgagtgtgaa gtatatttt caacttatct acaaggttga attatttccc
184801 ttttttttct ctctccagat aattttttat gtgggacgag gatacctgtc tccagatctc
184861 agtaaggtag ggagtaactg tccaaaagcc atgaagagat taatggcaga gtgcctcaaa
184921 aagaaaagag atgagagacc actctttccc caagtaagta aaagcttcat gctatccaaa
184981 agaacagact aacattcata gacagatttc tgagcacttt tttgggcaca cagtgtgtat
185041 ttcattgagtt tggattctat gtgcagactc cagacaagaa aacacattaa gatggcttca
185101 tgagggttga gcagtggcac acctagaaat tttgggtcct aatacaaaat attcagaaag
185161 actttgcatt tgtccatcag ttctcagact tctcagctt tgaactctt tacacattta
185221 aaaattatcg aagaccccc cccccacaaa gagcttttgt ttatataagt ttaattcct
185281 tattagaaat taaaactatt ttttaaaaaa ttaatgaatt aaacatagta acccaatatg
185341 ttaaaataata ttttagaaaa aacagttcta ttatctaaga gaaaaaatt agtgaggagt
185401 tgtattgttt tacttttttt gcaaatccct ttgcaaaaag aagacagctg gattctccgc
185461 ttttgcactc acattgcaat atctcacatc atgtcaccoc taaaaactct acttaacgct
185521 tgtaaaaata tgacagtaaa aaaggcaaat gatattctat tgttattaca aaaaatagttt
185581 tgacctcgtg gatccccctg tgggtccacg accacatttt gtgaaccact gctttatttc
185641 ttcttggtgg taaacagatt caagctttcc ttttaactg ggtctttttg aggggcattt
185701 ctgcctgatg cagaaaaagg aaaaggcagt aaggcatttg tcagctcagc ctgcctttac
185761 ctaattcttg ataactcact gctttttttt ttttttttcc atattggaag gataaaagcct
185821 taagttaaca aatttcaaaa agaactgtaa ctaaggccag gtgtcgtggc ttacaaatct
185881 caacactttg ggaggccaag gcaggcagat cagttgaggt caggagttcg agaccagcct
185941 ggccaacatg gtgaaaaccg tctctactaa aaatacaaaa attagctggg catagtggca
186001 ggagcctgta atcccagcca ctgaggagcc tgagacatga gaatcgcttg aaccaggag
186061 gtggagattg taatgagctg actgagacc agtgacttcc agccagggca acagaaatgag
186121 actctgttta aaacaaaaca aaacaaaat atctaaatac ctcaactagc ctacagatt
186181 tagctgtagt agatattata atataaatgc aatgttttct gatacttagg gagctcctga
186241 tagcactgga taaatatgcc ttgatgaatc agtacagttt caagtgggaa gtgctatttc
186301 ccatagtaac cctgctacca taattactgg agtgttcatg tatgaactct taggcctttg
186361 aatgcccagt cctagctgag taactcagac agaagtcaat gttacaggaa ttagattcac
186421 tcatccttta tttttaaatc taaaaaaatg tattcttctc taaagaatga aagaagataa
186481 aattgatggg ttaacaagt ctgtcagggt gttgcctaag aaaagaaag gaaagctaag
186541 tggttggctg ggtagatata agtttcattt atcaggtttc aaagtactg ttcctttgag

FIGURE 1AY

186601 gaagagtttt ttttttttct ttttattttt ttattttgttt ctctaagtca ggaaacctct
186661 ggggttgagac tgtcctggtg agagacaagt gctgctgagc agcttcagca tgaccctgtc
186721 ccatgtttctc ttttcacgtc atgggtgctcg ggttcttact tagaatgttt attgacatta
186781 ataatagcaa gtacatcctt agggccactt tttaaatgat attaaaaggg gcaaaatgct
186841 tagctccata cttctaaata taacatttca ttaattacat ggtttcaaaa actgaagtgc
186901 atatgtgaac tttccagatt attggaggct atccctttaa agtggttatt tgaaattttt
186961 gttacaggat atctttttcac accatactgt tatatgccac ataaatttta gatggctgaa
187021 gatctatatg ttttataaaa tatgaaatca tttttatagt tttgaggtag gaaaggcttt
187081 cttaatagac aaaattcaga aggaaaaaat tagcagatgt tagtacatta aaaattttta
187141 aactttctata tagaaaaata acattgaaag ataaaaagaa taattgtagc atataataca
187201 aaaagtaaat gtttataata tacaaggac tcctccaaat caataagtaa caaacaatag
187261 aaaatgggca aagggaatat gaacagtgga ttcacataat aaatacaaat ggtgaatgaa
187321 cttaggaaaaa ggtgtaaaata tttccatggc agtcagtaaa atgcaaagac acaacagtga
187381 aatatattttt aatttcgcct ctcaggttgg taatatccag cactgggaac aatggttggga
187441 agtgaggagg agcatttctat gtaaaaattt aaagggttgg tggaaggcag cattttggaa
187501 gaccttggtg gaatccataa attcaaaaaa cttctaaaaa tctgtgctat gtaacctatt
187561 tcataagtat tcagatatat ataagaatgt ttactataat aagaaaaaga cattaagatt
187621 aagtttagttt tgtattgatg acatggatat tgggtgagaga aaaagaaaac aagacagaaa
187681 acaaaatgta gtatgatacc tcattttttt tttttatagg ctgggcctgt tctgttgccc
187741 aggcctggagt gcagtaatat gatcatagcc cactgcagcc tcaaactcct gggctcaagc
187801 gatcctctca cctcagcctc ctaagtagct gggattgcag gtgcctatca ccacaccag
187861 ctaattttctt gtggtggtgg tgggtggtgg tgtagagata gatttctact atgttgccct
187921 ggctggtctt gaactcctgg cctcaagcga tcctctcgcc tcagcctccc aaagtgtggt
187981 gattacaggc gtgagcccca gtgcccagcc tgataaccac tttaaaaggt taaacagagg
188041 ccaggcacgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg caggcgatc
188101 acctgaggtt gggagtctga aaccagcctg accaacatgg agaaactctg actctactaa
188161 gaatacaaaa ttagccaggc gtggtggcac atgcctgtaa tcccagctac tcgggaggct
188221 gaggcaggaa aatcatttga acccaggagg cggaggttgc ggtgagccga gatcgacca
188281 ttgcaactcca gcctgggcaa caagagtgaat attccatctc caaaaaaaa aagtgggtgtt
188341 caggtgggcc ttgttttcat gtatgtattt ttatacataa aaaaagggtac tgaagaggcc
188401 aggcgcagtg actcacacct gtaatcccag cactttggga ggccaagggt ggtggatcag
188461 ttgaggttag gagttcgaga ccagcctggg caaaatgggt ataccgctct ctactaaaaa
188521 tacaaaatta tccgggcgtg gtggcacacg cctgtgatcc cagctactcg ggaggctgag
188581 gcaggagaat cgcttgaacc tgggaggcgg aggttgagat gcgctgagat cgcgccactg
188641 cactccagcc tggacaatag agtgagactc catctcaaaa aaaaaaaaaa aaggtacaga
188701 agaaagtata gactctaaca gtggttatcc ctggagagca ggatttgaga gccttatact
188761 ctttatacat ttctatagta ttttaatttt tatttgcag ttatacttgg aattttacaat
188821 tttttgcaac tgcttacttc tttgtcttat actaatcatc ataaagatta ctttttaaaa
188881 aaaattttaac ttttaaaaac aattttcagc caggcatggt ggctcatgtc tgaataccca
188941 gccctttggg aggccgaggc aggcagatca cctgagggtca ggagtttgag accagcctgg
189001 ccaacgtggt gaaaccctgt ctctgctaaa aatacaaaaa ttttagctggg catggtggtg
189061 cgctcctgta atcccagcta ctcaggaggc tgaggcagga gaatcgcttg aaccaggag
189121 ggggaggttg cagtgaagctg agattgtgcc actgcactcc agcctggttg acaacagcga
189181 gactccgttt caaaaaaaa aaaaaattgg tatctcagga caataacaaa agtaataata
189241 atagctgcta aggttttatt gattgtctat tataggccag gcattatgcc aagcccttta
189301 aacatgtttc atgattatga acatgcatta tcatgctgta tgccttcaag gattataacc
189361 tgtttctttg tgccttaaaa ttgtgaattt ctgcatttta tatattgggg tctatttgtc
189421 gagttctcct atctttgtct ttgggttgtc cctgtcact tctcatgtgc tactagcact
189481 ctgggtctgt gaggttctgc tttcaattag gtgtatgtaa aacatttccc atggctaggt
189541 ttctttaaag ggcaagtagc tgtgataatt gacttgggt atagtcataa aggtataaa
189601 ttattttatac tccatcttct tcccaaaaaga gacttgggt ctataacaaa aaaaataaaa
189661 attggtttta aattttctatt atttactgtt tcaagactaa caaatgatct cttcttaaga
189721 taaaagctga ctaagaatta ctctcccat ttaatttaca gagagagttt cttcttaaga
189781 aaaaatacca attattttaca aatattttcc caagcattta tgacaatgct gaaaacaatg
189841 taagatttca ggtgctttct tgtaaaagtgt gatgggactc ttaaagattt ataccacca
189901 gattttcatt cttctttctg ttttttcttt ttctttcttt cttttttttt cttttttctt
189961 tttttttctt tttttttctt tttttttttt gtagattctc gcctctattg agctgtgggc
190021 ccgctcattg ccaaaaattc accgcagtgc atcagaaccc tccttgaatc ggcctgggtt
190081 ccaaacagag gatttttagtc tatatgcttg tgcttctcca aaaacacca tccaggcagg
190141 gggatatggt gcgttttcctg tccactgaaa caaatgagtg agagagttca ggagagtagc
190201 aacaaaagga aaataaatga acatatgttt gcttatatgt taaattgaat aaaaactctt

FIGURE 1AZ

190261 *ctttttttttt aaggtg*

FIGURE 1AAA

PPPRPTAAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIQMIKLTQ
EHIEALLDKFGGEHNPPSIYLEAYEYTSKLDALQQREQQLES LGNGTDFSVSSSASMDTVTSSSSSSLSVLPS
SLSVFQNPTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPI
GWDTDISWLTGEELHVEVLENVPLTTHNFVRKTFFTLAFCDFCRKLLFQGFRQCQTCGYKFHQRCSTEVPLMCVNY
DQLDLLFVSKFFEHHPIQEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIPPQFRPADEDHRNQFG
QRDRSSAPNVHINTIEPVNIDDLIRDQGGFRDGGSTTGLSATPPASLPGLTNVKALQKSPGPQRRERKSSSSSE
DRNRMKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKKGWHDVAVKMLNVTAPTQQQLQAFKNEVGVLKRT
RNVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIETKFEMIKLIDARQTAQGMDYLHAKSIHRDLKSNNIF
LHEDLTVKIGDFGLATVKSRSWSGSHQFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYAFGIVLYELMTGQLPYSN
INNRDQIIFMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKRDERPLFPQILASIELLARS LPKIHRASEPSL
NRAGFQTEDFS LYACASPKTPIQAGGYGAFPVH

FIGURE 2A

AAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEAL
LDKFGGEHNPPSIYLEAYEEYTSKLDALQQREQQLLES LGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLSVFQ
NPTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGWDTDI
SWLTGEELHVEVLENVPLTTHNFVRKTFFTLAFCDFCRKL LFQGFRCQTCGYKFHQRCSTEVPLMCVNYDQLDLL
FVSKFFEHHPI PQEEASLAETALTSGSSPSAPASDSIGPQILTSFSPSKSIPIPPFRPADEDHRNQFGQDRSS
SAPNVHINTIEPVNIDDLIRDQGFGRDGGSTTGLSATPPASLPGLTNVKALQKSPGPQREKSSSSSEDRNRMK
TLGRRDSSDDWEIPDGQITVGQRIGSGSF GTVYKKGWHGDVAVKMLNVTAPTQQQLQAFKNEVGVLKTRHVNIL
LFMGYSTKPQLAIVTQWCEGSSLYHHLHI IETKFEMIKLIDIA RQTAQGMDYLHAKSIIHRDLKSNNIFLHEDLT
VKIGDFGLATVKSRWSGSHQFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYA FGI VLYELMTGQLPYSNINNRDQ
VLCPPEYKNK

FIGURE 2B

FMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKKRDERPRLYLILASIELLARSLPKIHRSASEPSLN RAGFQTE
DFSLYACASPKTPIQAGGYGAFPVH

FIGURE 2C

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

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AAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEAL
LDKFGGEHNPPSIYLEAYEYTSKLDALQQREQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLVVFQ
NPTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGYGLYVT

FIGURE 2D

**Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF**

First Inventor: Richard B. ROTH

Docket No.: 524592003800

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AARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEALL
DKFGGEHNPPSIYLEAYEYYTSKLDALQQREQQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLVVFQN
PTDVARSNPKSPQKPIVRVFLPNKQRTVVSQF

FIGURE 2E

MHSNKENNSYWNLWGTELI FLFLALHQWIP LHLPLLAFCYLHLFQFFKIPQMWHGATPSHHKNLSLESSCPTN
RGQW

FIGURE 2F

L V S K Q R I L V Y M L V L L Q K H P S R Q G D M E N L Q P S S S H H G S I C S Y F L S L V F V Q F V N I K T Q F C S S N L F L K I Q N F Q C I S

FIGURE 2G

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1  atggcgggcgc tgagcgggtgg cgggtggtggc ggcgcgggagc cgggccaggc tctgttcaac
61  ggggacatgg agcccgaggc cggcgccggc cggcccgcgg cctcttcggc tgcggaccct
121 gccattccgg aggaggtgtg gaatatcaaa caaatgatta agttgacaca ggaacatata
181 gaggccctat tggacaaatt tgggtggggag cataatccac catcaatata tctggaggcc
241 tatgaagaat acaccagcaa gctagatgca ctccaacaaa gagaacaaca gttattggaa
301 tctctgggga acggaactga ttttctgtt tctagctctg catcaatgga taccgttaca
361 tcttcttctt cttctagcct ttcagtgtca ccttcatctc tttcagtttt tcaaaatccc
421 acagatgtgg cacggagcaa cccaagtca ccacaaaaac ctatcgtagg agtcttctctg
481 cccaacaaac agaggacagt ggtacctgca aggtgtggag ttacagtcctg agacagtcta
541 aagaaagcac tgatgatgag aggtctaata ccagagtgtc gtgctgttta cagaattcag
601 gatggagaga agaaaccaat tggttgggac actgatattt cctggcttac tggagaagaa
661 ttgcatgtgg aagtgttggg gaatgttcca cttacaacac acaactttgt acgaaaaacg
721 tttttcacct tagcattttg tgacttttgt cgaaagctgc ttttccaggg tttccgctgt
781 caaacatgtg gttataaatt tcaccagcgt tgtagtacag aagttccact gatgtgtgtt
841 aattatgacc aacttgattt gctgtttgtc tccaagttct ttgaacacca cccaatacca
901 caggaagagg cgtccttagc agagactgcc ctaacatctg gatcatcccc ttccgcaccc
961 gcctcggact ctattgggcc ccaaattctc accagtcctg ctcttcaaaa atccattcca
1021 attccacagc ctttccgacc agcagatgaa gatcatcgaa atcaatttgg gcaacgagac
1081 cgatcctcat cagctcccaa tgtgcatata aacacaatag aacctgtcaa tattgatgac
1141 ttgattagag accaaggatt tcgtgggtgat ggaggatcaa ccacaggttt gtctgtctacc
1201 cccctgcct cattacctgg ctactaact aacgtgaaag ccttacagaa atctccagga
1261 cctcagcgag aaaggaaagtc atcttcatcc tcagaagaca ggaatcgaat gaaaacactt
1321 ggtagacggg actcgagtga tgattgggag attcctgatg ggcagattac agtgggacaa
1381 agaattggat ctggatcatt tggaacagtc tacaagggaa agtggcatgg tgatgtggca
1441 gtgaaaatgt tgaatgtgac agcacctaca cctcagcagt tacaagcctt caaaaatgaa
1501 gtaggagtac tcaggaaaac acgacatgtg aatatcctac tcttcatggg ctattccaca
1561 aagccacaac tggctattgt taccagtggt tgtgagggtc ccagcttgta tcaccatctc
1621 catatcattg agaccaaatt tgagatgata aaacttatag atattgcacg acagactgca
1681 cagggcatgg attacttaca cgccaagtca atcatccaca gagacctcaa gagtaataat
1741 atatttcttc atgaagacct cacagtaaaa ataggtgatt ttggtctagc tacagtgaaa
1801 tctcgatgga gtgggtccca tcagtttgaa cagttgtctg gatccatttt gtggatggca
1861 ccagaagtca tcagaatgca agataaaaaat ccatacagct ttcagtcaga tgtatatgca
1921 tttgggattg ttctgtatga attgatgact ggacagttac cttattcaaa catcaacaac
1981 agggaccaga taatttttat ggtgggacga ggatacctgt ctccagatct cagtaaggta
2041 cggagtaact gtccaaaagc catgaagaga ttaatggcag agtgcctcaa aaagaaaaga
2101 gatgagagac cactctttcc ccaaattctc gcctctattg agctgctggc ccgctcattg
2161 ccaaaaattc accgcagtgc atcagaaccc tccttgaatc gggctggttt ccaaacagag
2221 gatttttagtc tatatgcttg tgcttctcca aaaacaccca tccaggcagg gggatatggt
2281 gcgttttctg tccactga

```

FIGURE 3A

MAALSGGGGGAEPGQALFNGDMEPEAGAGRPAASSAADPAIPEEVWNIKQMIKLTQEHIEALLDKFGGEHNPPS
IYLEAYEEYTSKLDALQQREQQLLES LGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLSVFQNPTDVARSNPKS
PQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGWDTDISWLTGEELHVEV
LENVPLTTHNFVRKTFFTLAFCDFCRKLLFQGFRCQTCGYKFHQRCSTEVPLMCVNYDQLDLLFVSKFFEHHPIP
QEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIPPFRPADEDHRNQFGQDRSSSAPNVHINTIEP
VNIDDLIRDQGFRGDGGSTTGLSATPPASLPGLTNVKALQKSPGPQERKSSSSSEDRNRMKTLGRRDSSDDWE
IPDGQITVGQRIGSGSFGTVYKGKWHGDVAVKMLNVTAPTQQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLA
IVTQWCEGSSLYHHLHIIETKFEMIKLIDIARQTAQGM DY LHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVK
SRWSSGSHQFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYAFGIVLYELMTGQLPYSNINN RDQIIIFMVGRGYLSP
DLSKVRSNCPKAMKRLMAECLKKRDERPLFPQILASIELLARS LPKIHRSASEPSLN RAGFQTEDFS LYACASP
KTPIQAGGYGAFPVH

FIGURE 3B

```

1  atggagcaca  tacaggggagc  ttggaagacg  atcagcaatg  gtttcggact  caaagatgct
61  gtgtttgatg  gctccagttg  catctcccct  acaattgttc  agcagtttgg  ctatcagcgt
121  cgggcctctg  atgatggcaa  actcacggat  tcttctaaga  caagcaatac  tatccggggt
181  ttcttgccga  ataagcaaag  gactgtggtc  aatgtgcgga  atgggatgag  cttgcacgac
241  tgccttatga  aagctctgaa  ggtagaggc  ctgcagccag  agtgctgtgc  agtgttcaga
301  cttcttcagg  agcacaaagg  taagaaagca  cgcttagatt  ggaacaccga  cgccgcctct
361  ctgattggag  aagaactgca  agtggatttt  ttggatcacg  ttccactcac  aactcacaac
421  tttgtcggga  aaacgttcct  gaagcttgca  ttctgtgaca  tctgtcaaaa  gttcctgcta
481  aatggatttc  gatgtcagac  ttgtggctac  aagtttcatg  agcactgtag  caccaaaagta
541  cctactatgt  gtgtggactg  gagtaatatc  agacagctct  tgctgtttcc  aaattccact
601  gcaagtgaca  gtggagtccc  agcaccaccc  tctttcaca  tgcgtcggat  gcgagaatct
661  gtttcccgga  tgcctgctag  ttcccagcac  agatactcca  caccocatgc  cttcactttc
721  aacacctcca  gcccttcctc  tgaaggttcc  ctgtcccaga  ggcagaggtc  aacgtccact
781  cccaatgtcc  acatggtcag  caccaccctg  cctgtggaca  gcaggatgat  tgaggatgca
841  attcgaagtc  acagtgaatc  agcctcacct  tcagccctgt  ccagcagccc  caacaacctg
901  agcccaacag  gctggtcaca  gcccaaaacc  cctgtgccag  cacaaagaga  gagggcgcca
961  ggatctggga  cccaggaaaa  aaacaaaatt  aggcctcgtg  ggcagagaga  ttcaagttat
1021  tactgggaaa  tagaagccag  tgagggtgat  ctgtctactc  ggattggctc  gggctccttt
1081  ggcactgtgt  acaagggcaa  gtggcatgga  gatgttgcat  taaagatcct  aaagggtggt
1141  gacccaactc  cagagcaact  tcaggccttc  aggaacgagg  tggctgtttt  gcgcaaaaca
1201  cggcattgta  atatcctgct  gttcatgggg  tacatgacaa  aggacaacct  ggcgattgtg
1261  acccagtggg  gtgaaggcag  cagtctctac  aaacacctgc  atgtccagga  gaccaaattc
1321  cagatgttcc  agctaattga  cattgcccgg  cagacagctc  agggaatgga  ctatttacat
1381  gcaaagaaca  tcatccacag  agacatgaaa  tccaacaata  tatttctcca  tgaaggctc
1441  acggtgaaaa  tcggagattt  tggtttgcca  acagtgaagt  cgcgctggag  tggttctcag
1501  caggttgaac  agcccactgg  ctctgtgctg  tggatggccc  cagaagtaat  ccgaatgcag
1561  gataacaacc  cgttcagctt  ccagtcagat  gtctactcct  atggcattgt  gctgtatgag
1621  ctgatgactg  gggagcttcc  ctactccac  atcaacaacc  gagaccagat  catcttcag
1681  gtgggccgtg  ggtacgcctc  ccagatctt  agcaggctct  acaagaactg  cccaaggca
1741  atgaagagggt  tgggtggctga  ctgtgtgaag  aaagtcaaag  aagaaaggcc  tttgttcct
1801  cagatcctgt  cttccattga  gctgcttcag  cactctctgc  cgaaaatcaa  caggagcgcc
1861  tctgagcctt  ccctgcacg  ggcagctcac  actgaggaca  tcaatgcttg  tacgctgacc
1921  acatccccaa  ggctaccagt  cttctag

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FIGURE 3C

MEHIQGAWKTISNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDSKTSNTIRVFLPNKQRTVVNVNRNG
MSLHDCMLKALKVRGLQPECCAVFRLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHNFARKTFLKLA
FCDICQKFLNNGFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTASDSGVPAPPSFTMRRMRESVSRMP
ASSQHRYSTPHAFTFNTSSPSSEGLSQRQRSTSTPNVHVMVSTTLPVDSRMIEDAIRSHSESASPSALSSSPNNL
SPTGWSQPKTPVPAQRERAPGSGTQEKNKIRPRGQRDSSYYWEIEASEVMLSTRIGSGSFGTVYKGKWHGDVAVK
ILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIVTQWCEGSSLYKHLHVQETKFQMFQLIDIAR
QTAQGMDYLAHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLATVKSRSWGSQQVEQPTGSLWMAPEVIRMQDNNPF
SFQSDVYSYGIVLYELMTGELPYSHINNRDQII FMVGRGYASPDLSRLYKNCPKAMKRLVADCVKKVKEERPLFP
QILSSIELLQHSLPKINRSASEPSLHRAAHTEDINACTLTTSRPLPVF

FIGURE 3D


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1  atggaggggtg gctgtggaga aggcggcggc ggcacgggct cgggccggag cgccgcagcg
61  gcgcgccgag cgggggagaat gaggccgaga gcgcagggcc cggactcgga gagcggcggc
121  gaggcgtccc ggctcaacct gttggacact tgcgcggtgt gccaccagaa catccagagc
181  cgggtgcccc agctgctgcc ctgcctgcac tcgttctgcc agcgtgtttt gcccgcgcgcg
241  cagcgtatc tcatgctgac ggcgcccgcg ctgggctcgg cagagacccc tccaccgcct
301  cccgcccccg ccccgccccg gggctccccg gccggtgggtc cttcgccatt cgccacccaa
361  gttggagtca ttcgatgccc agtttgagtc caagagtgtg ctgagagaca catcatagac
421  aacttttttg tgaaggacac cactgaagtt cctagtagta cagtagaaaa gtctaatacag
481  gtatgtacaa gctgtgaaga caatgcagaa gctaattgggt tttgtgtaga gtgtgttgaa
541  tggctctgca agacatgtat tagagctcac cagaggggtga agttcacaaa agaccacaca
601  gtcaggcaga aagaagaagt atctccagag gcagtggggg tgaccagtca gcgaccagtg
661  ttttgtccct tccataaaaa ggagcagttg aaactttact gtgaaacatg tgataaactg
721  acctgtcgag actgccagct gctagaacac aaagaacaca ggtatcaatt tatagaagaa
781  gctttttcaga atcaaaaagt gatcatagat actctaatac ccaaactgat ggaaaaaaca
841  aaatatataa agtatacagg aaatcagatc caaaatagga taattgaaat aaatcaaaac
901  caaaagcagg tggaaacagga tattaagttt gccatcttca cattgatggg ggagataaac
961  aaaaaaggga aagctctgct gcaccagctt gagaaaacac ttggtagaag agattcaagt
1021  gatgactggg agattcctga tggacagatt acagtgggac agagaattgg atctgggtca
1081  tttggaactg tctacaaggg aaagtggcat ggtgatgtgg cagtgaatat gttgaatgtg
1141  acagcaccca cacctcaaca gctacaggcc ttcaaaaatg aagtaggagt gctcaggaaa
1201  actcgacatg tgaatatcct ctttttcatt ggctattcta caaagccaca actggcaatt
1261  gttacacagt ggtgtgaggg ctccagctta tatcaccatc tccacatcat tgagacccaa
1321  tttgagatga tcaaacttat agatattgct cggcagactg cacagggcat ggattactta
1381  cagcceaagt caatcatcca cagagacctc aagagtaata atatatttct tcatgaagac
1441  ctcacggtaa aaataggtga ctttgggtcta gccacagtga aatctcggtg gagtgggtcc
1501  catcagtttg aacagttgtc tggatctatt ttgtggatgg caccagaagt aatcagaatg
1561  caagataaaa acccgatatag ctttcagtca gatgtgtatg cgtttgggat tgttctgtac
1621  gaactgatga ccggccagct acctatttca aacatcaaca acagggatca gataattttt
1681  atgggtgggac gaggatacct atctccagat ctgagtaagg tacggagtaa ctgtccaaaa
1741  gccatgaaga gattaatggc agagtgcctc aaaaaaagaaa gagacgagag accactcttt
1801  ccccaaattc tcgcctccat tgagctgctg gcccgctcat tgccaaaaat tcaccgcagt
1861  gcatcagaac cttccttgaa tcgggctggt ttccaaacag aagattttag tctgtatgct
1921  tgtgcttctc cgaaaacacc catccaagca gggggatatg gtgggtttcc agtccactga

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FIGURE 3E

MEGGCGEGGGGTGSGRSAAAARRAGMRPRAQGPDESSESGGEASRLNLLDTCVCHQNIQSRVPKLLPCLHSFCQR
CLPAPQRYLMLTAPALGSAETPPPAPAPAPAPGSPAGGPPFATQVGVIRCPVCSQECAERHIIDNFFVKDTTEV
PSSTVEKSNQVCTSCEDNAEANGFCVECWEWLCKTCIRAHQVRKFTKDHTVRQKEEVSPEAVGVTSQRPVFCPFH
KKEQLKLYCETCDKLTCDRCQLEHKEHRYQFIEEAFQNQKVIIDTLITKLMEKTKYIKYTGNQIQNRIIEINQN
QKQVEQDIKVAIFTLMVEINKKGKALLHQLEKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKGKWHGDVAV
KMLNVTAPTQQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIIETKFEMIKLIDIA
RQTAQGM DY LHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVKSRSWSHGFQELSGSILWMAPEVIRMQDKNP
YSFQSDVYA FGI VLYELMTGQLPYSNINN RDQII FMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKRDERPLF
PQILASIELLARS LPKIHR SASEPSLN RAGFQTEDFS LYACASPKTPIQAGGYGGFPVH

FIGURE 3F

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

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	10	20	30	40	50	60	70	80
Human	ATGGCGCGCTGAGCGGTGGCGGTGGTGGCGGCGCGGAGCCGGGCCAGGCTCTGTTCAACGGGGACATGGAGCC-CGAGG							
Rat	-----ATGGA-----GC-----ACAT--ACAGGGAGCT-TGGAA							
Mouse	-----ATGGA-----GGGTGGCTGTGGAG							
Prim. cons.	ATGGCGCGCTGAGCGGTGGCGGTGGTGGCGGCATGGAGCCGGGCCAGGCTCTGTTCAAC22GGACAGGGAGCTGTGGAG							
	90	100	110	120	130	140	150	160
Human	CCGGCGCGCGGCCCGCGGCTCTTCGGTCTGCGGACCTGCCATTCCGGAGGAGGTGTGGAATATCAAACAAATGATT							
Rat	-----GACGATCAGCAA-----TGGTTTCGGAC-----TCAA-----							
Mouse	A-----AGCGG-CGGCGGCA-----CGGCTCCGG-----CGGA-----							
Prim. cons.	2CGGCGCC2G3CGG2C3GCGG2TCTTCGG3TTCGGACCTGCCATTCCGGAGGAGGTGTGGAATATCAAACAAATGATT							
	170	180	190	200	210	220	230	240
Human	AAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTGGTGGGGAGCATAATCCACCATCAATATATCTGGAGGC							
Rat	-----G-----ATG-----CTGT-----GTTTGATGG-----CT-CCAGTTGCATCTCC-----C							
Mouse	-----GCG-----CCGC-----AGCGCG-----CGCCGAGCGGGGAGAATG-AGGC							
Prim. cons.	AAGTTGACACAGGAACATGTAGAGGCCCTGTTGGACAA2TTGGTGG2GAGCATAATC32CCAGC3G3AT3TCTGGAGGC							
	250	260	270	280	290	300	310	320
Human	CTATGAAGAATACACCAGCAAGCTAGATGCACTCCAACAAGAGAACAACAGTTATTGGAATCTCTGGGGAACGGAACCTG							
Rat	CTAC-----AATTGTTACGAGTTTGGCTAT-----CAGCG-----TCGGGCTCTGATGA-TGGCA--							
Mouse	CGAGAGCGCAGGGCCCGG--ACTCGGAGAG-----CGCGCG--CGAGGCGTCC--CGGCTC--							
Prim. cons.	CTA322GAAT3G3CCAGCAA3TTGGATA3ACTCCAACAAGAGAACAACAGCGTTATTGGGGCCTCTG22GAACGGCACTG							
	330	340	350	360	370	380	390	400
Human	ATTTTCTGTTTCTAGCTCTGCATCAATGGATACCGTTACATCTTCTTCTTCTAGCCTTTCAGTGTACCTTCATCT							
Rat	-----AACTC-----ACGGAT-----TCTTCTAA-----							
Mouse	-----AACCT-----GTTGGACA-----CTTGCGCC-----							
Prim. cons.	ATTTTCTGTTTCTAACTCTGCATC2ATGGATACCGTTACATCTTCTTCTTCTA3CCTTTCAGTGTACCTTCATCT							
	410	420	430	440	450	460	470	480
Human	CTTTCAGTTTTCAAAATCCACAGATGTGGCAGGAGCAACCCCAAGTCACCACAAAACCTATCGTTAGAGTCTTCCT							
Rat	-----GACA-----AGCAA-----TACTATCCGGGTTTCTT							
Mouse	-----GTGTGCCAC-----CAG-----AACATCCAGACCGGGT							
Prim. cons.	CTTTCAGTTTTCAAAATCCACAG2TGTG3CAGGAGCAACCCCAAGTCACCACAAAACCTA3CATCCGGGTCTTC3T							
	490	500	510	520	530	540	550	560
Human	GCCCAACAACAGAG--GACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAAGAAAGCACTGATGAT							
Rat	GCCGAATAAGCAAAG--GACTGTGGTCAATGTGCGGAATGGGATGAGCTTGACAGACTGCCCTTATGAAGCTCTGAAGGT							
Mouse	GCCCAAGCTGCTGCCCTGCCTGCCTGCACTCGTTCTGCC-AGCGCTGTTTGCCCGCGCCGAGCGCTAT-----CTCATGCT							
Prim. cons.	GCCCAA3AAGCAGAGCTGACTGTGGCT33TGTGCGGAGTGG3GTTAGC3TGC CGCAGACCTTATGAAAGC2CTGATG3T							
	570	580	590	600	610	620	630	640
Human	GAGAGGTCTAATCCAGAGTGTGTGCTGTTTACAGAATTC-----AGGATGGAGAGAAGAAACCAA--TTGGTTGGG							
Rat	TAGAGGCTGCAGCCAGAGTGTGTGCTGTTTACAGACTTCTTCAGGAGCACAAAGTAAGAAAGCAGCTTAGATTGGA							
Mouse	GA-----CGGCGCCC--GCGCTGGGCTCGGCAGAGACCCCTCCACCGCTCCCGCCCCCGCCCCCGC--CCCGGGCTCCC							
Prim. cons.	GAGAGG2CTGC3CCAGAGTGTGTGCTGTGTACAGACTTCT2CA22AGCAC33AG33AAGAAACACGC2T3GGTTGG3							
	650	660	670	680	690	700	710	720
Human	ACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGT-GGAAGTGTGGAGAATGTTCCACTTACAACACACAACCTT							
Rat	ACACCGACGCGCCTCTCTGATTGGAGAAGAACTGCAAGT-GGATTTTTTGGATCACGTTCCACTCACAACCTCACAACCTT							
Mouse	CGGCCGGTGGTCTTCGCC-ATTCGCCA-----CCCAAGTTGGAGTCATTCTGA---TGCCAGTTTGAG-TCAAGAGTGT							
Prim. cons.	ACACCGATG3T3CCTCGCT2ATTGGAGAAGAA2TGCAAGTTGGA3TT3TTGGA22ATGTTCCACTTACAACCTCACAACCTT							
	730	740	750	760	770	780	790	800
Human	TGTACGAAAAACGTTTTTCACCTTAGCATTTTGTGACTTTTGTGCG--AAAGCTGCTTTTCCAGGGTTTCCGCTGTCAA-							

FIGURE 4A

	810	820	830	840	850	860	870	880
Rat	TGCTCGGAAAAACGTTCTCTGAAGCTTGCATTCTGTGACATCTGTCA--AAAGTTCTCTGCTAAATGGATTTCGATGTCAGA-							
Mouse	TGCT--GAGAGACACATCATAGACAACCTTTTGTGAAGGACACCACCTGAAGTTCTCTAGTAGTACAGTAGAAAAAGTCTAAAT							
Prim.cons.	TGCTCGGAAAAACGTTCTCT3A33CTAGCATTTTGTGAC3T3TGTCTACTAAAGTTCTCT33TA3A3GG3TT3TCGATGTCAAAT							
Human	CATGTGGTTTATAAATTTACCAGCGTTGTAGTACAGAAGTTCC--ACTGATGTGTGTTAATTATGACCAAC--TTGATTTC							
Rat	CTTGTGGCTACAAGTTTCATGAGCACTGTAGCACCACCAAGTACCTACT--ATGTGTGTGGACTG--GAGTAATATCAGACAGC							
Mouse	CAGGTATGTACAAGCT--GTGAAGAC--AATGCAGAAG-----CTAATGGGTTTGTGTA--GAGTG--TGTTGAATGGC							
Prim.cons.	CATGTGG3TACAAGTTTCATGAGCACTGTAGTACAGAAGT2CCTACT2ATGTGTGTTGA3TATGAGTAAT2TTGAAT3GC							
Human	TGTT-----TGCTCCAAGTTCTTTGAACACCACCCCAATACCACAGGAAGAGGCGTCCTTAGCAGAGACTGCCCTAAC							
Rat	TCTTGC-----TGTTTCCAAAT-----CCACTGCAA--GTGAC--AGTGGAG--TCCCAGC							
Mouse	TCTGCAAGACATGTATTAGAGCT-----CACCAGAG-----GGTGAAGT--TCACAAA							
Prim.cons.	TCTT22AGACATGT3TCCAAGTTCTTTGAACACCACCCCAATACCAC3GGAAGAGG2G2CCTTAGTGGAG2CTGTCCCAAC							
Human	ATCTGGATCATCCCCTTCCGCAC-----CCGCCTCGGACTCTA--TTGGGCC--CCAAATTTCCACCAGT---							
Rat	A-----CCACCCTCTTTCACAA-----T--GCGTCGGATGCGAGAATCTGTTTC--CCGATGCCTGCTAGTTC-							
Mouse	A----GACCACACAGTCAGGCAGAAAGAAGAAGTATCTCCAGAGGCAG---TTGGGGTGACCAGTCAGCGACCAGTGT							
Prim.cons.	ATCTGGACACCC3CTT3CGCA3AAAGAAGAAGT2GC3TCGGA3GC3AGAATTTGGG3CGACCAGAT3CC3ACCAGT22T							
Human	CCGTCCTC-----CTTCAAAT-----CCAT-----TCCAATTCACAGCCCTT--CCGACCAGCAGATGAAGATCATCG							
Rat	CCAGCAGAGATACTCCACACC-----CCATGC--CTTCACATTCA--ACACCTC--CAGCCCTTCTCTGGAAGGTTCCCT							
Mouse	TTGTCCC-----TTCCATAAAAGGAGCAGTTGAAACTTTACTGTGAAACATGTGATAAATGACTCTCGAGACTGCCA							
Prim.cons.	CCGTC3CAGATACTCCA3AA3AAGGAGCCAT22AAACTTCACTTTCA2ACACCT3ACAGACC33CCT3TGAAGATT3CC3							
Human	A-AATCAATTTGGGCAACGAGACCCGATCCTCATCAGCTCCCAA-----TGTCATA--TA---AAC-ACAATAGAACC							
Rat	G-TCCAG--AGGCA--GAGGTCAA-----CGTCCACTCCCAA-----TGTCACA--TGGTCAGC--ACCACCTGCC							
Mouse	GCTGCTAGA--ACACAAGAACACAG--GTATCAATTTATAGAAGAAGCTTTTCAGAATCAAAAAGTGATCATAGATAC							
Prim.cons.	GCT3CCAG2TTAGGCAA2GAG33CAATCC2CATCAACTCCCAAAAGAAGCTGT3CA3AATTA22AGCGACCATAGA3CC							
Human	TGTCATATTGATGACTTGTATTAGAGACCAAGGA--TTTCGTGGT--GATGGAGGATCAACCACAGGTT-----TGTCTGCTA							
Rat	TGTGGACAGC--AGGA--TGATTGAGGAT---GCA--ATTGGAAGT--CACAGTGAATCAGCCTCACCTT-----CAGCC--CTG							
Mouse	TCTAATCACC---AACTGATGGAAAAACAAAATATATAAAGTATACAGGAATCAGATCCAAAATAGGATAATTGAAA							
Prim.cons.	TGT3AACA3CGA22TGATTGAAGA322AG3ATATTGGAATGGAAT3CAG3GAATCAGCC3CA33TTAGGATA3CTGCTA							
Human	CCCCCCTGCCTCATTACCTG--GCTCACTAA--CTAACGTGAAAGCCTTACAGAAATCTCCA-----GGACCTCA--GCGAG							
Rat	TCCAGCAGCCCCAACAACTGAGCCCAACAGGCTG--GTCACAGCC--C--AAAACCCCT-----GTGCCAGC--ACAAA							
Mouse	TAAATCAAAACCAA--AAGCA--TGGAACAGGATA--TTAAAGTT--GC--CATCTTCACATTGATGGTGAGATAAA							
Prim.cons.	TCCA3CA33CCCAA2AACCTGAGC3CAACAGGCTAACGT3AAAGCCTT2CAGAAATCTCCACATTGGTGCC3GAGACAAA							
Human	AAAGGAAGTCATCTTCATCTCTCAGAAGACAGGAATCGAATGAAACA--CTTGGTAGACGG--GACTCGAGTGATGATT							
Rat	GAGAGAGGGCGCCAGGATCT--GGGACCCAGGAAAAACAAATTAGGCCTCGTGGGCAGAGAGATTCAAGTTATTACT							
Mouse	CAAAAAAGGGA--AAGCTCT--GC--TGCACCAGCTTGA--GAAACA--CTTGGTAGAAGA--GATTCAAGTGATGACT							
Prim.cons.	3AAGAAGGCA2CA3GATCTT2G3A33CAGGAA333AA2GAAACAGGCTTGGTAGACGGAGAGATTCAAGTGATGACT							
Human	GGGAGATTCTGATGGGCAGATTACAGTGGGACAAAGAATTGGATCTGGATCATTGGAAACAGTCTACAAGGGAAAGTGG							
Rat	GGGAAATAGAAGCCAGTGAGGTGATGCTGTCTACTCGGATTGCTCGGGCTCCTTTGGCACTGTGTACAAGGGCAAGTGG							
Mouse	GGGAGATTCTGATGGACAGATTACAGTGGGACAGAGAATTGGATCTGGGTCAATTGGAACTGTCTACAAGGGAAAGTGG							
Prim.cons.	GGGAGATTCTGATGG3CAGATTACAGTGGGACA3AGAATTGGATCTGG3TCATTTGGAAGTGTCTACAAGGGAAAGTGG							

FIGURE 4B

	1530	1540	1550	1560	1570	1580	1590	1600
Human	CATGGT	GATGTGGC	AGTGA	ATGTTGA	ATGTGAC	AGCACCT	CAGCAGT	TACAAGCCTTCAAAATGAAGTAGG
Rat	CATGGAGATGTTGC	AGTAAAGATCCTAA	AGGTGGTTGAC	CCAACCTCCAGAGCA	ACTTCAGGCCTTCAGG	ACCGAGGTGGC		
Mouse	CATGGT	GATGTGGC	AGTGA	ATGTTGA	ATGTGAC	AGCACCT	CAACAGCT	TACAGGCCTTCAAAATGAAGTAGG
Prim.cons.	CATGGT	GATGTGGC	AGTGA	ATGTTGA	ATGTGAC	AGCACCT	CAGCAGT	TACAAGCCTTCAAAATGAAGTAGG
	1610	1620	1630	1640	1650	1660	1670	1680
Human	AGTACTCAGG	AAACACGACATGTGA	ATATCCTACTCTT	CATGGGCTATTC	CACAAAGCCACAAC	-TGGCTATTGTTACC		
Rat	TGTTTTGCGCA	AAACACGGCATGT	TAATATCCTGCTG	TTTCATGGGGTAC	ATGACAAAGG-ACA	ACCTGGCGATTGTGACC		
Mouse	AGTGCTCAGG	AAACTCGACATGTGA	ATATCCTCTTTTC	ATGGGCTATTTCT	ACAAAGCCACAAC	-TGGAATTTGTTACA		
Prim.cons.	AGT3CTCAGG	AAACACGACATGTGA	ATATCCT3CT3TT	CATGGGCTATTC	3ACAAAGCCACAAC	CTGGC3ATTGTTACC		
	1690	1700	1710	1720	1730	1740	1750	1760
Human	CAGTGGTGTGAGG	GCTCCAGCTTGTAT	CACCATCTCCATAT	CATTGAGACCAAA	TTTGAGATGATCAA	ACTTATAGATAT		
Rat	CAGTGGTGTGAAG	GCGAGCAGTCTCT	ACAAACACCTGC	ATGTCAGGAGAC	CAAAATTCAGATG	TTCAGCTAATTGACAT		
Mouse	CAGTGGTGTGAGG	GCTCCAGCTTATAT	CACCATCTCCACAT	CATTGAGACCAAA	TTTGAGATGATCAA	ACTTATAGATAT		
Prim.cons.	CAGTGGTGTGAGG	GCTCCAGCTT3TAT	CACCATCTCCATAT	CATTGAGACCAAA	TTTGAGATGATCAA	ACTTATAGATAT		
	1770	1780	1790	1800	1810	1820	1830	1840
Human	TGCACGACAGACT	GCACAGGGCATGG	ATTACTTACACGCC	AAGTCAATCATCC	CACAGAGACCTCA	AGAGTAATAATATAT		
Rat	TGCCCGGCAGAC	AGCTCAGGGAATGG	ACTATTACATGCAA	AGAACATCATCC	CACAGAGACATGA	AATCCAACAATATAT		
Mouse	TGCTCGGCAGACT	GCACAGGGCATGG	ATTACTTACACGCC	AAGTCAATCATCC	CACAGAGACCTCA	AGAGTAATAATATAT		
Prim.cons.	TGC3CGGCAGACT	GCACAGGGCATGG	ATTACTTACACGCC	AAGTCAATCATCC	CACAGAGACCTCA	AGAGTAATAATATAT		
	1850	1860	1870	1880	1890	1900	1910	1920
Human	TTCTTCATGAAG	ACCTCACAGTAAAA	ATAGGTGATTTTGG	TCTAGCTACAGTGA	AATCTCGATGGAGT	GGGTCCCATCAG		
Rat	TTCTCCATGAAG	CCCTCACGGTGA	AAATCGGAGATTTT	GGTTTGGCAACAGT	GAAGTCGCGCTGG	AGTGGTTCTCAGCAG		
Mouse	TTCTTCATGAAG	ACCTCACGGTGA	AAATAGGTGATTTT	GGTTTGGCAACAGT	GAATCTCGGTGG	AGTGGGTCCCATCAG		
Prim.cons.	TTCTTCATGAAG	ACCTCACGGTGA	AAATAGGTGATTTT	GGTTCTAGC3AC	AGTGAATCTCG3T	GGAGTGGGTCCCATCAG		
	1930	1940	1950	1960	1970	1980	1990	2000
Human	TTTGAACAGTTG	TCTGGATCCATTTT	TGTGGATGGCACC	AGAAGTCAATCAGA	AATGCAAGATAAAA	ATCCATACAGCTTTCA		
Rat	GTTGAACAGCCC	ACTGGCTCTGTGCT	GTGGATGGCCCC	AGAAGTAATCCGA	ATGCAGGATAACA	ACCCGTTACGCTTCCA		
Mouse	TTTGAACAGTTG	TCTGGATCTATTTT	TGTGGATGGCACC	AGAAGTAATCAGA	AATGCAAGATAAAA	ACCCGTATAGCTTTCA		
Prim.cons.	TTTGAACAGTTG	TCTGGATCTATTTT	TGTGGATGGCACC	AGAAGTAATCAGA	AATGCAAGATAAAA	ACCCGTACAGCTTTCA		
	2010	2020	2030	2040	2050	2060	2070	2080
Human	GTCAGATGTATAT	GCATTTGGGATTGTT	CTGTATGAATTGAT	GAAGTGGACAGTT	ACCTTATTTCAA	ACATCAACAACAGGG		
Rat	GTCAGATGTCTACT	CTATGGCATTGTGCT	GTATGAGCTGATG	ACTGGGGAGCTTCC	CTACTCCACATCA	ACAACAGGAG		
Mouse	GTCAGATGTGTAT	GCGTTTGGGATTGTT	CTGTATGAAGTAT	GACCGCCAGCTAC	CTTATTTCAA	ACATCAACAACAGGG		
Prim.cons.	GTCAGATGT3TAT	GC3TTTGGGATTGTT	CTGTATGAAGTAT	GACTGG3CAGCT	ACCTTATTTCAA	ACATCAACAACAGGG		
	2090	2100	2110	2120	2130	2140	2150	2160
Human	ACCAGATAAATTTT	TATGGTGGGACGAGG	ATACCTGTCTCCAG	ATCTCAGTAAGGT	ACGGAGTAAGTGT	CCAAAAGCCATG		
Rat	ACCAGATCATCTT	CATGGTGGGCGGTGGG	TACGCTCCCGAGAT	CTTAGCAGGCTCT	ACAAGAACTGCC	CAAGGCAATG		
Mouse	ATCAGATAAATTTT	TATGGTGGGACGAGG	ATACCTGTCTCCAG	ATCTCAGTAAGGT	ACGGAGTAAGTGT	CCAAAAGCCATG		
Prim.cons.	ACCAGATAAATTTT	TATGGTGGGACGAGG	ATACCT3TCTCCAG	ATCTCAGTAAGGT	ACGGAGTAAGTGT	CCAAAAGCCATG		
	2170	2180	2190	2200	2210	2220	2230	2240
Human	AAGAGATTAATGG	CAGAGTGCCCTCA	AAAAGAAAAGAGAT	GAGAGACCACTCTT	TCCCCAAATTCTCG	CTCTATTGAGCT		
Rat	AAGAGGTTGGTGG	CTGACTGTGTGA	AGAAAGTCAAAG	AAGAAAGGCCTTT	GTTCCTCAGATCCT	GTCTCCATTGAGCT		
Mouse	AAGAGATTAATGG	CAGAGTGCCCTCA	AAAAGAAAAGAGAG	ACCACTCTTCCCCA	AATTCTCGCTCC	ATTGAGCT		
Prim.cons.	AAGAGATTAATGG	CAGAGTGCCCTCA	AAAAGAAAAGAG	A3GAGAGACCACTCTT	TCCCCAATTCTCG	CTCCATTGAGCT		
	2250	2260	2270	2280	2290	2300	2310	2320
Human	GCTGGCCCGCTC	ATTGCCAAAATT	CACCGCAGTGCAT	CAGAACCTCCTT	GAAATCGGGCTGG	TTTCCAAACAGAGG	ATT	

FIGURE 4C

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF
First Inventor: Richard B. ROTH
Docket No.: 524592003800
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```

Rat      GCTTCAGCACTCTCTGCCGAAAATCAACAGGAGCGCCTCTGAGCCTTCCCTGCATCGGGCAGCT---CACACTGAGGACA
Mouse    GCTGGCCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCTTCCTTGAATCGGGCTGGTTTCCAAACAGAAGATT
***      * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Prim.cons. GCTGGCCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCTTCCTTGAATCGGGCTGGTTTCCAAACAGAGGATT

          2330      2340      2350      2360      2370      2380      2390
          |        |        |        |        |        |        |
Human     TTAGTCTATATGCTTGTGCTTCTCCAAAAACACCCATCCAGGCAGGGGGATATGGTGCGTTTCCTGTCCACTGA
Rat       TCA-----ATGCTTGTACG---CTGACCACATCC--CCA-----AG-----GCTACCAGTCTTCTAG
Mouse     TTAGTCTGTATGCTTGTGCTTCTCCGAAAAACACCCATCCAAGCAGGGGGATATGGTGGGTTTCCAGTCCACTGA
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Prim.cons. TTAGTCT2TATGCTTGTGCTTCTCCGAAAAACACCCATCCA2GCAGGGGGATATGGTG2GTTTCCAGTCCACTGA

```

Alignment data :
Alignment length : 2394
Identity (*) : 976 is 40.77 %
Strongly similar (:) : 0 is 0.00 %
Weakly similar (.) : 0 is 0.00 %
Different : 1418 is 59.23 %
Sequence 0001 : Human (2298 residues).
Sequence 0002 : Rat (1947 residues).
Sequence 0003 : Mouse (1980 residues).

CLUSTALW options used :
dnamatrix=iuB
endgaps=1
gapdist=8
gapext=0.05
gapopen=10.0
ktuple=1
maxdiv=40
outorder=aligned
pairgap=3
score=percent
topdiags=5
type=DNA
window=5

FIGURE 4D

```

      10      20      30      40      50      60      70      80
      |      |      |      |      |      |      |      |
Human  ATGGCGGC--GCTGAGCGGTGGCGGTGGTGGCGGCGGAGCCGGGCCAG-GCTCTGTTCAACGG-----GGACATGGA
Mouse  ATGGAGGTGGCTG--TGGAGAAGGCGGCGGCGGCACGGGCTCCGGCCGGAGCGCCG--CAGCGCGCGCCGAGCGGGGA
      * * * * *
Prim.cons. ATGG2GG2TGGCTGAG2GG2G22GG2GG2GGCGGC2CGG222C2GGCC2GAGC2C2GTTCA2CGGCGCGCCG22C22GGA

      90      100     110     120     130     140     150     160
      |      |      |      |      |      |      |      |
Human  GCCCCAGGCGCGCGCGCGCGCGGCTCTTCGGCTGCGGACCCTGCCATTCCGGAGGAGGTGTGGAATATCAAAC
Mouse  GAATGAGGCCGAGAGCGCAGGGCCCG-GACTCGGAGAGCGGCGG--CGAGGCGTCCC-----GGCTCAACCTGTGGAC
      * * * * *
Prim.cons. G222GAGGCCG222CG222GGCCCGCGC2C222222GC2GCGGACC22G2C2T2CCGGAGGAGG222222T2T222AC

      170     180     190     200     210     220     230     240
      |      |      |      |      |      |      |      |
Human  AAATGATTAAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGGGAGCATAATCCACCATCAATATAT
Mouse  ACTTGCGCCGTGTGCCACCAGAACATCCAGAG--CC-----GGGTGCCCAAGCTGCTGCC---TGC
      * * * * *
Prim.cons. A22TG222222TG2CAC22GAACAT22AGAGGCCCTATTGGACAAATTTGGTGGGG2GC22AA2C22C222C2ATAT22

      250     260     270     280     290     300     310     320
      |      |      |      |      |      |      |      |
Human  CTGGAGGCCTATGAAGAATACACCAGCAAGCTAGATGCACTCCAACAAGAGAACAACAGTTATTGGAATCTCTGGGGAA
Mouse  CTGCA--CTCGT-----TCTGCCAGC--GCTGTTTGCCCGC-----GCCGCAGCGCT---ATCTCATGCTGA
      * * * * *
Prim.cons. CTG2AGGC222TGAAGAAT222CCAGCAAGCT222TGC2C2CCAACAAGAGA2C22CAG222TTGGAATCTC22G222A

      330     340     350     360     370     380     390     400
      |      |      |      |      |      |      |      |
Human  CGGAAGTATTTTCTGTTTCTAGCTCTGCATCAATGGATACCGTTACATCTTCTTCTTCTAGCCTTTCAGTGCTAC
Mouse  CGGCGC-----CCGCGCTG--GGCTCGGCA-----GAGACCCCTCCACCCGCTCCC-----GCC-----CCGC
      * * * * *
Prim.cons. CGG22CTGATTT222G2T2CT2GCTC2GCATCAATGGA2ACC22T2CA2C22CT2CCTCTTCTAGCC2TTCAGTGCC22C

      410     420     430     440     450     460     470     480
      |      |      |      |      |      |      |      |
Human  CTTTCATCTCTTTCAGTTTTTCAAAATCCACAGATGTGGCAGGAGCAACCCCAAGTCACCACAAAACCTATCGTTAGA
Mouse  CCCCCCCCC--GGGCTCCCCGG--C-CG-----GTGGTCTTCGCCATTTC--GCCACC-CAA-----GTTGGA
      * * * * *
Prim.cons. C22C22C2CTTT22G2T222C22AATCCC2CAGATGTGG22C22GC2A22CCAAG2CACCACAAAACCTATCGTT2GA

      490     500     510     520     530     540     550     560
      |      |      |      |      |      |      |      |
Human  GTCTTCC--TGCCCAACAAACAGAGGACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCT-----AAA
Mouse  GTCATTGATGCCAGTTTGCAGTCAAGAGTG--TGCTG-----AGAGACACA-TCATAGACAACCTTTTGTGAAG
      * * * * *
Prim.cons. GTC2T2CGATGCCA22222CAG222A2AGTGGT22CTGCAAGGTGT2GAG22ACAGTC22AGACA222TTTTTGTGA2

      570     580     590     600     610     620     630     640
      |      |      |      |      |      |      |      |
Human  GAAAGCACTGATGATGAGAGGTCTAATCCCAGAGTGCTGTGCTGTTTACAGAATTACAGATGGAGAGAAGAAACCAATTG
Mouse  GACACCCTGAAGTT-----CCTAGT-----AGTACAGTA-----GAAAAGTCTAATCAGGTATGTACAAGCT-----
      * * * * *
Prim.cons. GA2A2CACTGA2G2TGAGAGG2CTA2TCCCAGAGT2C2GT2CTGTTT2A2A2T2A222GG22G2A2A2C2AATTG

      650     660     670     680     690     700     710     720
      |      |      |      |      |      |      |      |
Human  GTTGGGACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGTGGAA-GTGTGGAGAATGTCCACTTACAACACA
Mouse  GTGAAGACAATG-----CAGAAGCTAATGGG-----TTTTGTGTAGAGTGTGTTG--AATGGCTC--T-GCAAGACA
      * * * * *
Prim.cons. GT222GACA2TGATATTT222222A2TGG2GAAGAATT222GT2GA2TGTGTGGAGAATG222CACTT2CAA2ACA

      730     740     750     760     770     780     790     800
      |      |      |      |      |      |      |      |
Human  CAACTTTGTACGAAAAACGTTTTTCACCTTAGCATTTTGTGACTTTTGTGCGAAAGCTGCTTTCCAGGGTTTCCGCTGTC
Mouse  -----TGTATTAGAG-----CTCACCAGAGG-----GTGAAGTTCA-CAAAAG--A-----CCA-----CACAGTC
      * * * * *
Prim.cons. CAACTTTGT2A2A2ACGTTT2TCACC22AG2ATTTTGTGA22T22TC2AAAGCT2CTTTTCCAGGGTTTCC2C2GTC

      810     820     830     840     850     860     870     880
      |      |      |      |      |      |      |      |
Human  AAACATGTGGTTATAAATTTACCAGCGTTGTAGTACAGAAGTCCACTGATGTGTGTTAATTA-TGACCAACTTGATTT
Mouse  AGGCA-GAAAGAAGAAGTATCTCCAGAG--GCACT-----TGGGGTG-ACCAGTCAGCGACCAG-----TGT
      * * * * *

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FIGURE 5A

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FIGURE 5B

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF
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***** ** *****
Prim.cons.  TATAGATATTGC2CG2CAGACTGCACAGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTA

          1770      1780      1790      1800      1810      1820      1830      1840
          |         |         |         |         |         |         |         |
Human      ATAATATATTTCTTCATGAAGACCTCACAGTAAAAATAGGTGATTTTGGTCTAGCTACAGTGAAATCTCGATGGAGTGGG
Mouse      ATAATATATTTCTTCATGAAGACCTCACGGTAAAAATAGGTGACTTTGGTCTAGCCACAGTGAAATCTCGGTGGAGTGGG
*****
Prim.cons.  ATAATATATTTCTTCATGAAGACCTCAC2GTAAAAATAGGTGA2TTTGGTCTAGC2ACAGTGAAATCTCG2TGGAGTGGG

          1850      1860      1870      1880      1890      1900      1910      1920
          |         |         |         |         |         |         |         |
Human      TCCCATCAGTTTGAACAGTTGTCTGGATCCATTTTGTGGATGGCACCAGAAGTCATCAGAATGCAAGATAAAAAATCCATA
Mouse      TCCCATCAGTTTGAACAGTTGTCTGGATCTATTTTGTGGATGGCACCAGAAGTAATCAGAATGCAAGATAAAACCCGTA
*****
Prim.cons.  TCCCATCAGTTTGAACAGTTGTCTGGATC2ATTTTGTGGATGGCACCAGAAGT2ATCAGAATGCAAGATAAAAA2CC2TA

          1930      1940      1950      1960      1970      1980      1990      2000
          |         |         |         |         |         |         |         |
Human      CAGCTTTCAGTCAGATGTATATGCATTTGGGATTGTTCTGTATGAATTGATGACTGGACAGTTACCTTATTCAAACATCA
Mouse      TAGCTTTCAGTCAGATGTGTATGCGTTTGGGATTGTTCTGTACGAAGTATGACCGGCCAGCTACCTTATTCAAACATCA
*****
Prim.cons.  2AGCTTTCAGTCAGATGT2TATGC2TTTGGGATTGTTCTGTA2GAA2TGATGAC2GG2CAG2TACCTTATTCAAACATCA

          2010      2020      2030      2040      2050      2060      2070      2080
          |         |         |         |         |         |         |         |
Human      ACAACAGGGACCAGATAAATTTTATGGTGGGACGAGGATACCTGTCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA
Mouse      ACAACAGGGATCAGATAAATTTTATGGTGGGACGAGGATACCTATCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA
*****
Prim.cons.  ACAACAGGGA2CAGATAAATTTTATGGTGGGACGAGGATACCT2TCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA

          2090      2100      2110      2120      2130      2140      2150      2160
          |         |         |         |         |         |         |         |
Human      AAAGCCATGAAGAGATTAATGGCAGAGTGCTCAAAAAGAAAAGAGATGAGAGACCACCTCTTCCCCAAATTCTCGCCTC
Mouse      AAAGCCATGAAGAGATTAATGGCAGAGTGCTCAAAAAGAAAAGAGACGAGAGACCACCTCTTCCCCAAATTCTCGCCTC
*****
Prim.cons.  AAAGCCATGAAGAGATTAATGGCAGAGTGCTCAAAAAGAAAAGAGA2GAGAGACCACCTCTTCCCCAAATTCTCGCCTC

          2170      2180      2190      2200      2210      2220      2230      2240
          |         |         |         |         |         |         |         |
Human      TATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTACCGCAGTGCATCAGAACCCTTCCTTGAATCGGGCTGGTTTCCAAA
Mouse      CATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTACCGCAGTGCATCAGAACCCTTCCTTGAATCGGGCTGGTTTCCAAA
*****
Prim.cons.  2ATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTACCGCAGTGCATCAGAACC2TCCTTGAATCGGGCTGGTTTCCAAA

          2250      2260      2270      2280      2290      2300      2310      2320
          |         |         |         |         |         |         |         |
Human      CAGAGGATTTTAGTCTATATGCTTGTGCTTCTCCAAAAACCCATCCAGGCAGGGGGATATGGTGGCTTTCTGTCCAC
Mouse      CAGAAGATTTTAGTCTGTATGCTTGTGCTTCTCCGAAACACCCATCCAAGCAGGGGGATATGGTGGGTTTCCAGTCCAC
*****
Prim.cons.  CAGA2GATTTTAGTCT2TATGCTTGTGCTTCTCC2AAAAACCCATCCA2GCAGGGGGATATGGTG2TTTCC2GTCCAC

Human      TGA
Mouse      TGA
          ***
Prim.cons.  TGA

```

Alignment data :
Alignment length : 2323
Identity (*) : 1505 is 64.79 %
Strongly similar (:) : 0 is 0.00 %
Weakly similar (.) : 0 is 0.00 %
Different : 818 is 35.21 %
Sequence 0001 : Human (2298 residues).
Sequence 0002 : Mouse (1980 residues).

CLUSTALW options used :
dnamatrix=iub
endgaps=1
gapdist=8
gapext=0.05
gapopen=10.0
ktuple=1

FIGURE 5C

maxdiv=40
outorder=aligned
pairgap=3
score=percent
topdiags=5
type=DNA
window=5

FIGURE 5D

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
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Prim. cons.	2TA2AA2TTTCA22AGC22TGTAG2AC22AAGT2CCTACTGATGTGTGT22A2T2TGA22AA2AT22222GCT2TTGCT
	<div style="display: flex; justify-content: space-around; font-size: small;"> 890900910920930940950960 </div>
Human	GTCTCCAAGTTCTTTGAACACCACCCAATACCACAGGAAGAGGCGTCCTTAGCAGAGACTGCCCTAACATCTGGATCATC
Rat	GTTTCCAAATT-----CCACTGCAA---GTGAC---AGTGGAG---TCCCAGCA-----CCACC
	** ***** **
Prim. cons.	GT2TCCAA2TTCTTTGAACACCACCCAATACCAC2G2AAGAGG2G2CCTTAG22GAGACTG2CC2A2CATCTGGA2CA2C
	<div style="display: flex; justify-content: space-around; font-size: small;"> 97098099010001010102010301040 </div>
Human	CCCTTCGCGACCCGCTCGGACTCTA---TTGGGCCCCAAATTCTCACCAGT---CCGTCTC-----CTTCAAATCCAT
Rat	CTCTTTCACAAT-GCGTCGGATGCGAGAATCTGTTCCCGGATGCCTGCTAGTTCCCAGCAGAGATACTCCACACCCCAT
	* * * * *
Prim. cons.	C2CTT2C2CA22CGC2TCGGA22C2AGAAT2TG222CCC22AT2C222C2AGTTCCT22C2CAGATACT2CA2A22CCAT
	<div style="display: flex; justify-content: space-around; font-size: small;"> 10501060107010801090110011101120 </div>
Human	---TCCAATTCCACAGCCCTTCCGACCAGCAGATGAAGATCATCGAAATCAATTGGGCAACGAGACCGATCCTCATCAG
Rat	GCCTTCACTTTCA-ACACCTCCAGCCCTTCTCTGAAGGTTCCCTGTCCAG---AGGCA--GAGGTCAA-----CGTCCA
	* * * * *
Prim. cons.	GCCT2CA2TT2CA22CCT2C2G2CC22C222TGAAG2T222C2222CA2TTT2GGCAACGAG22C2ATCCT2C2C22
	<div style="display: flex; justify-content: space-around; font-size: small;"> 11301140115011601170118011901200 </div>
Human	CTCCCAATGTGCATATA---AACACAATAGAACCTGTCAATATTGATGACTTGATTAGAGACCAAGGATTTCTGTTGAT
Rat	CTCCCAATGTCCACATGGTCAGCACCACCTGCCTGTGGACAGC-AGGA--TGATTGAGGAT---GCAATTCGAAGTCAC

Prim. cons.	CTCCCAATGT2CA2AT2GTCA2CAC2A2222CCTGT22A2A22GA2GACTTGATT222GA2CAAG2A2TTTCG22GT2A2
	<div style="display: flex; justify-content: space-around; font-size: small;"> 12101220123012401250126012701280 </div>
Human	GGAGGATCAACCACAGGTTTGTCTGTCTACCCCTGCTCATTACCTG-GCTCACTAA-CTAACGTGAAAGCCTTACAG
Rat	AGTGAATCAGCCTCACCTTACGCC-CTGTCCAGCAGCCCAACAACCTGAGCCCAACAGGCTG--GTCACAGCC---C--
	* * * * *
Prim. cons.	2G2G2ATCA2CC2CA22TT222C2GCT22CC22C222CC22A2ACCTGAGC2CA22A2GCT2ACGT2A2AGCCTTACAG
	<div style="display: flex; justify-content: space-around; font-size: small;"> 12901300131013201330134013501360 </div>
Human	AAATCTCCAGGACCTCAGCGAGAAAGGAAGTCATCTTCATCCTCAGAAGACAGGAATCGAATGAAAACA--CTTGGTAGA
Rat	AAAACCCCTGTGCCAGCACAAAGAGAGAGGGGCCAGGATCT--GGGACCCAGGAAAAAACAATAATAGGCCCTCGTGGG

Prim. cons.	AAA2C2CC2G22CC2222C2A22A22GA2G2C22C222ATC2TC2G2A22CAGGAA222AA2AAA22AGGC2T2GT2G2
	<div style="display: flex; justify-content: space-around; font-size: small;"> 13701380139014001410142014301440 </div>
Human	CGG--GACTCGAGTGATGATTGGGAGATTCCTGATGGGCAGATTACAGTGGGACAAAGAATTGGATCTGGATCATTTGG
Rat	CAGAGAGATTCAAGTTATTACTGGGAAATAGAAGCCAGTGAGGTGATGCTGTCTACTCGGATTGGCTCGGGCTCCTTTGG
	* * * * *
Prim. cons.	C2GAGAGA2TC2AGT2AT2A2TGGGA2AT2222G222G22AG2T2A222T2G22222G22ATGG2TC2GG2TC2TTTGG
	<div style="display: flex; justify-content: space-around; font-size: small;"> 14501460147014801490150015101520 </div>
Human	AACAGTCTACAAGGGAAAGTGGCATGGTGATGTGGCAGTGAAAATGTGAATGTGACAGACCTACACCTCAGCAGTTAC
Rat	CACTGTGTACAAGGGCAAGTGGCATGGAGATGTTGCAGTAAAGATCCTAAAGGTGGTTGACCCAACTCCAGAGCAACTTC
	* * * * *
Prim. cons.	2AC2GT2TACAAGGG2AAGTGGCATGG2GATGT2GCAGT2AA2AT22T2AA2GTG22G22CC2AC2CC22AGCA22T2C
	<div style="display: flex; justify-content: space-around; font-size: small;"> 15301540155015601570158015901600 </div>
Human	AAGCCTTCAAAAAATGAAGTAGGAGTACTCAGGAAAACACGACATGTGAATATCCTACTCTTCATGGGCTATTCCACAAAG
Rat	AGGCCTTCAGGAACGAGGTGGCTGTTTTCGCGAAAACACGGCATGTTAATATCCTGCTGTTTCATGGGGTACATGACAAAG
	* * * * *
Prim. cons.	A2GCCTTCA22AA2GA2GT2G22GT22T2G2AAAACACG2CATGT2AATATCCT2CT2TTCATGGG2TA222ACAAAG
	<div style="display: flex; justify-content: space-around; font-size: small;"> 16101620163016401650166016701680 </div>
Human	CCACAAC-TGGCTATTGTTACCCAGTGGTGTGAGGGCTCCAGCTTGTATCACCATCTCCATATCATTGAGACCAAATTTG
Rat	G-ACAACCTGGCGATTGTGACCCAGTGGTGTGAAGGCAGCAGTCTCTACAACACCTGCATGTCCAGGAGACCAAATTC

Prim. cons.	2CACAACCTGGC2ATTGT2ACCCAGTGGTGTGA2GGC22CAG22T2TA22A2CA2CT2TC222GAGACCAAAT22
	<div style="display: flex; justify-content: space-around; font-size: small;"> 16901700171017201730174017501760 </div>
Human	AGATGATCAAACCTATAGATATTGCACGACAGACTGCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGA
Rat	AGATGTTCCAGCTAATTGACATTGCCCGGACAGAGCTCAGGAATGGACTATTTACATGCAAGAACATCATCCACAGA

FIGURE 6B

```

*****
Prim.cons. AGATG2TC2A2CT2AT2GA2ATTGC2CG2CAGAC2GC2CAGGG2ATGGA2TA2TTACA2GC2AAG22ATCATCCACAGA

          1770      1780      1790      1800      1810      1820      1830      1840
          |        |        |        |        |        |        |        |
Human      GACCTCAAGAGTAATAATATATTCTTCATGAAGACCTCACAGTAAAAATAGGTGATTTGGTCTAGCTACAGTGAAATC
Rat        GACATGAAATCCAACAATATATTCTCCATGAAGGCCTCACGGTGAAAAATCGGAGATTTGGTTTGGCAACAGTGAAATC
          * * * * *
Prim.cons. GAC2T2AA222AA2AATATATTCT2CATGAAG2CCTCAC2GT2AAAA2GG2GATTTGGT2T2GC2ACAGTGAA2TC

          1850      1860      1870      1880      1890      1900      1910      1920
          |        |        |        |        |        |        |        |
Human      TCGATGGAGTGGGTCCCATCAGTTTGAACAGTTGTCTGGATCCATTTTGTGGATGGCACCAGAAGTCATCAGAATGCAAG
Rat        GCGCTGGAGTGGTTCTCAGCAGGTTGAACAGCCCACTGGCTCTGTGCTGTGGATGGCCCAAGAAGTAATCCGAATGCAGG
          * * * * *
Prim.cons. 2CG2TGGAGTGG2TC2CA2CAG2TTGAACAG2222CTGG2TC22T2TGTGGATGGC2CCAGAAG2ATC2GAATGCA2G

          1930      1940      1950      1960      1970      1980      1990      2000
          |        |        |        |        |        |        |        |
Human      ATAAAAATCCATACAGCTTTCAGTCAGATGTATATGCATTGGGATTGTCTGTATGAATTGATGACTGGACAGTTACCT
Rat        ATAACAACCGCTTCAGCTCCAGTCCGATGTCTACTCCTATGGCATTGTCTGTATGAGCTGATGACTGGGAGCTTCCC
          * * * * *
Prim.cons. ATAA2AA2CC2T2CAGCTT2CAGTC2GATGT2TA2C2T2TGG2ATTGT2CTGTATGA22TGATGACTGG22AG2T2CC2

          2010      2020      2030      2040      2050      2060      2070      2080
          |        |        |        |        |        |        |        |
Human      TATTCAAACATCAACAACAGGGACCAGATAATTTTATGGTGGGACGAGGATACCTGTCTCCAGATCTCAGTAAGGTACG
Rat        TACTCCCACATCAACAACCGAGACCAGATCATCTTCATGGTGGGCCGTGGGTACGCCCTCCCAAGATCTTAGCAGGCTCTA
          * * * * *
Prim.cons. TA2TC22ACATCAACAAC2G2GACCAGAT2AT2TT2ATGGTGGG2CG2GG2TAC222TC2CCAGATCT2AG2A2G2T222

          2090      2100      2110      2120      2130      2140      2150      2160
          |        |        |        |        |        |        |        |
Human      GAGTAACTGTCCAAAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAAAGAGATGAGAGACCCTCTTTCCCC
Rat        CAAGAAGCTGCCCAAGGCAATGAAGAGTTGGTGGCTGACTGTGTGAAGAAAGTCAAGAAGAAAAGGCCCTTGTTCCTC
          * * * * *
Prim.cons. 2A22AAGTGC22AA2GC2ATGAAGAG2TT22TGGC2GA2TG22T2AA2AA222A2AGA2GA2AG2CC22T2TTCC2C

          2170      2180      2190      2200      2210      2220      2230      2240
          |        |        |        |        |        |        |        |
Human      AAATCTCGCCTCTATTGAGCTGCTGGCCCGCTCATTTGCCAAAATTCACCGCAGTGCATCAGAACCCTCCTTGAATCGG
Rat        AGATCCTGTCTTCCATTGAGCTGCTTCAGCACTCTCTGCCGAAAATCAACAGGAGCGCCTCTGAGCCTTCCCTGCATCGG
          * * * * *
Prim.cons. A2AT2CT22C2TC2ATTGAGCTGCT2222C2CTC22TGCC2AAAAT22AC2G2AG2GC2TC2GA2CC2TCC2TG2ATCGG

          2250      2260      2270      2280      2290      2300      2310      2320
          |        |        |        |        |        |        |        |
Human      GCTGGTTTCCAAACAGAGGATTTAGTCTATATGCTTGTGCTTCTCCAAAACACCCATCCAGGCAGGGGATATGGTGC
Rat        GCAGCT---CACACTGAGGACATCA-----ATGCTTGTACG---CTGACCACATCC---CCA-----AG-----
          * * * * *
Prim.cons. GC2G2TTTCCA2AC2GAGGA22T2AGTCTATATGCTTGT2C2TCTC22A22ACA2CCATCCAGGCAGG2GGATATGGTGC

          2330
          |
Human      GTTTCCTGTCCACTGA
Rat        GCTACCACTCTTCTAG
          * * * * *
Prim.cons. G2T2CC2GTC22CT22

```

Alignment data :

Alignment length : 2336
Identity (*) : 1291 is 55.27 %
Strongly similar (:) : 0 is 0.00 %
Weakly similar (.) : 0 is 0.00 %
Different : 1045 is 44.73 %
Sequence 0001 : Human (2298 residues).
Sequence 0002 : Rat (1947 residues).

CLUSTALW options used :

dnamatrix=iub
endgaps=1
gapdist=8
gapext=0.05
gapopen=10.0
ktuple=1

FIGURE 6C

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

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```
maxdiv=40  
outorder=aligned  
pairgap=3  
score=percent  
topdiags=5  
type=DNA  
window=5
```

FIGURE 6D

>gi|1170701|sp|P15056|KRAB_HUMAN B-Raf proto-oncogene serine/threonine-
protein kinase (p94) (v-Raf murine sarcoma viral oncogene homolog B1)

>Human.

MAALSGGGGGAEPGQALFNGDMEPEAGAGRPAASSAADPAIPEEVWNIKQMIKLTQEHIEALLDKFGGE
HNPPSIYLEAYEYTSKLDALQQREQQLES LGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLSVFQNP
TDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGWD
TDISWLTGEELHVEVLENVPLTHNFVRKTFFTLAFCDFCRKL LFQGFRCQTCGYKFHQRCS TEVPLMCV
NYDQLDLLFVSKFFEHHPIPQEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIQPFRPADE
DHRNQFGQRDRSSSAPNVHINTIEPVNIDDLIRDQGFRGDGGSTTGLSATPPASLPGSLTNVKALQKSPG
PQRERKSSSSSEDRNRMKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKGKWHGDVAVKMLNVTAPT
PQQLQAFKNEVGVLRKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIETKFEMIKLID IARQTA
QGMDYLHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVKSRWSGSHQFEQLSGSILWMAPEVIRMQDKN
PYSFQSDVYAFGIVLYELMTGQLPYSNINNRDQIIFMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKKR
DERPLFPQILASIELLARSLPKIHRSASEPSLN RAGFQTEDFS LYACASPKTPIQAGGYGAFPVH

FIGURE 7A

>gi|18497290|ref|NP_084056.1| protein kinase raf 1; murine sarcoma 3611
oncogene 1; sarcoma 3611 oncogene [Mus musculus]

>Mouse.

MEHIQGAWKTIISNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDSKTSNTIRVFLPNKQRTVV
NVRNGMSLHDCLMKALKVRGLQPECCAVFRLLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHN
FARKTFLKLAFCDICQKFLNGFRCQTCGYKFHEHCSTKVPTMCDWSNIRQLLLFPNSTVGDSGVPAPP
SFPMRMRRESVSRMPASSQHRYSTPHAFTFNTSSPSSEGSLSQRQRSTSTPNVHVMVSTTLHVDSRMIEDA
IRSHSESASPSALSSSPNNLSPTGWSQPKTPVPAQRERAPGSGTQEKNKIRPRGORDSSYYWEIEASEVM
LSTRIGSGSFGTVYKKGWHGDVAVKILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIV
TQWCEGSSLYKHLHVQETKFQMFQLIDIARQTAQGMDYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLA
TVKSRWGSQQVEQPTGSVLWMAPEVIRMQDDNPFSFQSDVYSYGIVLYELMAGELPYAHINNRDQIIIFM
VGRGYASPDLSRLYKNCPKAMKRLVADCVKVKKEERPLFPQILSSIPELLQHSPLKINRSASEPSLHRAAH
TEDINACTLTTSPLRPVF

FIGURE 7B

>gi|125653|sp|P11345|KRAF_RAT RAF proto-oncogene serine/threonine-protein
kinase (RAF-1) (C-RAF)

>Rat.

MEHIQGAWKTIISNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDSKTSNTIRVFLPNKQRTVV
NVRNGMSLHDCLMKALKVRGLQPECCAVFRLLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHN
FARKTFLKLAFCDICQKFLNGFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTASDSGVPAPP
SFTMRMRRESVSRMPASSQHRYSTPHAFTFNTSSPSSEGLSQRQRSTSTPNVHVMVSTLPVDSRMIEDA
IRSHSESASPSALSSSPNNLSPTGWSQPKTPVPAQRERAPGSGTQEK NKIRPRGQRDSSYYWEIEASEVM
LSTRIGSGSFGTVYKGKWHGDAVAVKILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIV
TQWCEGSSLYKHLHVQETKFQMFQLIDIARQTAQGMDYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLA
TVKSRWGSQQVEQPTGSVLWMAPEVIRMQDNNPFSFQSDVYSYGIVLYELMTGELPYSHINNRDQIIFM
VGRGYASPDLSRLYKNC PKAMKRLVADCVKVKVKEERPLFPQILSSI ELLQHSLPKINRSASEPSLHRAAH
TEDINACTLTTSPLRPVF

FIGURE 7C

>gi|15227883|ref|NP_179361.1| putative protein kinase [Arabidopsis
thaliana]

>Arabidopsis.

MTIKDESESCGSRAVVASPSQENPRHYRMKLDVYSEVLQRLQESNYEEATLPDFEDQLWLHFNRLPARYA
LDVKVERAEDVLTHQRLLKLAADPATRPVFEVRSVQVSPRISADSDPAVEEDAQSSHQPSGPGVLAPPTF
GSSPNFEAITQGSKIIVEDVDSVVNATLSTRPMHEITFSTIDKPKLLSQLTSLLGELGLNIQEAHAFSTVD
GFSLDVFVVDGWSQEETDGLRDALSKEILKLDQPGSKQKSISFFEHDKSSNELIPACIEIPTDGTDEWE
IDVTQLKIEKKVASGSYGD LHRGTYCSQEVAIKFLKPDRVNNEMLREFSQEVFIMRKVRHKNVVQFLGAC
TRSP TLCIVTEFMARGSIYDFLHKQKCAFKLQTLLKVALDVAKGMSYLHQNNIIHRDLKTANLLMDEHGL
VKVADFGVARVQIESGVM TAETGT YRWMAPEVIEHKPYNHKADVFSYAIVLWELLTGDIPYAFLTPLQAA
VGVVQKGLRPKIPK KTHPKVKGLLERCWHQDPEQRPLFEEIIEMLQQIMKEVNVVV

FIGURE 7D

>gi|422343|pir||S33261 protein kinase lin-45 (EC 2.7.1.-) - Caenorhabditis elegans

>C elegans.

MSRINFKKSSASTTPTSPHCPSRLISLPRCASSSIDRKDQASPMASPSTPLYPKHSDSLHSLSGHHSAG
GAGTSDKEPPKFKYKMIMVHLPFDDQHSRVEVRPGETARDAISKLLKKRNITPQLCHVNASSDPKQESIEL
SLTMEEIASRLPGNELWVHSEYLNVTSSIKHAIVRRTFIPPKSCDVCNNPIWMMGFRCEFCQFKFHQRCS
SFAPLYCDLLQSVPKNEDLVKELFGIASQVEGPDRSVAEIVLANLAPTSGQSPAATPDSSHPDLTSIKRT
GGVKRHPMAVSPQNETSQLSPSGPYPRDRSSAPNINAINDEATVQHNQRILDALEAQRLEESRDKTGS
LLSTQARHRPHFQSGHILSGARMNRLHPLVDCTPLGSNSPSSSTCSSPPGGLIGQPTLGQSPNVSGSTTSS
LVAAHLHTLPLTPPQSAPPQKISPGFFRNRSRSPGERLDAQRP RPQKPHHEDWEILPNEFIIQYKVGSG
SFGTVYRGEFFGTVAIKKLNVDPTPSQMAAFKNEVAVLKKTRHLNVLLFMGWVREPEIAIITQWCEGSS
LYRHIHVQEPRVEFEMGAIIDILKQVSLGMNYLHSKNIIHRDLKTNNIFLMDDMSTVKIGDFGLATVTKK
WTVNGGQQQQPTGSILWMAPEVIRMQDDNPYTPQSDVYSFGICMYEILSSHLPYSNINNRDQILFMVGR
GYLRPDRSKIRHDTPKSMLKLYDNCIMFDRNERPVFGEVLERLRDIILPKLTRSQSAPNVLHLDQSYSVM
DAVMRSQMLWSYIPATAKTPQSAAAAAARNKKAYYNVYGLI

FIGURE 7E

>gi|17933524|ref|NP_525047.1| pole hole; pole-hole; raf-like-oncogene-1;
l(1)pole hole; Raf [Drosophila melanogaster]

>Drosophila.

MSSESSTEGDSDLYDPLAEELHNVQLVKHVTRENIDALNAKFANLQEPPAMYLIEYQELTSKLHELEAKE
QELMERLNSQDQEDSSLVERFKEQPHYQNQTQILQQQRQLARVHHGNDLTDSLGSQPGSQCGTLTROPK
ILLRAHLPNQRTSVEVISGVRLCDALMKALKLRQLTPDMCEVSTTHSGRHII PWHTDIGTLHVEEIFVR
LLDKFPIRTHIKHQIIRKTTFFSLVFCEGCRLLFTGFYCSQCNRFRHQRCANRVPMLCQPFPMDSYYQLL
LAENPDNGVGFPGRGTAVRFNMSSRSRRCSSSSGSSSSSKPPSSSSGNHRQGRPPRISQDDRSNSAPNV
CINNIRSVTSEVQRSLIMQARPPLPHPCTDHSNSTQASPTSTLKHNRPRARSADESKNLLLRDAKSSEE
NWNILAEIILIGPRIGSGSFGTVYRAHWHGPVAVKTLNVKTPSPAQLQAFKNEVAMLKTRHCNILLFMG
CVSKPSLAIVTQWCEGSSLYKHVHVSETKFKLNTLIDIGRQVAQGM DY LHAKNIIHRDLKSNNIFLHEDL
SVKIGDFGLATAKTRWSGEKQANQPTGSILWMAPEVIRMQELNPYSFQSDVYAFGIVMYELLAECLEPYGH
ISNKDQILFMVGRGLLRPDMSQVRSDAPQALKRLAEDCIKYTPKDRPLFRPLLNMLENMLRTL PKIHRSA
SEPNLTQSQLQNDEFLLYLPSPKTPVNFNNFQFFGSAGNI

FIGURE 7F

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF
MELANOMA AND TREATMENTS THEREOF
First Inventor: Richard B. ROTH
Docket No.: 524592003800
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Human.	MAALSGGGGGAEPGQALFNGDMEPEAGRPAASSAADPAIPEEVWNKQMIKLTQEHI
Mouse.	-----
Rat.	-----
Arabidopsis.	-----
C	-----M
Drosophila.	-----MSSESSTEGDSDLYDPLAEELHNVQLVKHVTRENI
Human.	EALLDKFGGEHNPPSIYLEAYEYTSKLDALQQREQQLLESLNGTDFSVSSASMDTVT
Mouse.	-----MEHIQGAWKTISNGFGLKDAVF
Rat.	-----MEHIQGAWKTISNGFGLKDAVF
Arabidopsis.	-----
C	SRINFKKSSASTTPT-----SPHCPSRLISLPRCASSSIDRKDQAS
Drosophila.	DALNAKFANLQEPAMYLIYQELTSKLHELEAKEQELMERLNSQDQEDSSLVERFKEQ
Human.	SSSSSSSVLPSSLSVFQ-----NPTDVARSNPKSP-----QKPIRVFLPNKQRTVV
Mouse.	DGSSCISPTIVQQFGYQR-----RASDDGKLTDSK-----TSNTIRVFLPNKQRTVV
Rat.	DGSSCISPTIVQQFGYQR-----RASDDGKLTDSK-----TSNTIRVFLPNKQRTVV
Arabidopsis.	-----MTIKDESESCGSR-----AVVASPSQENPRHYRM
C	PMASPSTPLYPKHSDSLHSLSGHHSAGGAGTSDKEP-----PKFKYKMIMVHLFPDQHSRV
Drosophila.	PHYQNQTQILQQRQLARVHHGNDLTDLSGSPGSCGTLTRQPKILLRAHLPNQRTSV
	: : :
Human.	PARCGVTVRDSLKKALMMRGLIPECCAVYRI-----QDGEKKPIGWDTDISWLTGEELHV-
Mouse.	NVRNGMSLHDCIMKALKVRGLQPECCAVFRLQ-EHKGKKARLDWNTDAASLIGEELQV-
Rat.	NVRNGMSLHDCIMKALKVRGLQPECCAVFRLQ-EHKGKKARLDWNTDAASLIGEELQV-
Arabidopsis.	KLVDYSEVLQRLQESNYEEATLPDFEDQLWL-----HFNRLPARYALDVKVERAEVLTH
C	EVVRPGETARDAISKLLKRNITPQLCHVNASSDPKQESIELSLTMEIASRLPGNELVWH
Drosophila.	EVISGVRLCDALMKALKRLQPLDMCEVSTT-----HSGRHIIPWHTDIGTLHVEEIFV-
	: : : . * : . . : : :
Human.	-EVLNVPLTTH---NFVRKTFFTLAFCDFCRK-LLFQGFRQCQTCGYKFHQRCEVPLM
Mouse.	-DFLDHVPLTTH---NFARKTFLKLAFCDICQK-FLLNGFRCQTCGYKFHEHCSTKVPTM
Rat.	-DFLDHVPLTTH---NFARKTFLKLAFCDICQK-FLLNGFRCQTCGYKFHEHCSTKVPTM
Arabidopsis.	QRLKLADPAT-----RPVFEVRSVQVSPRI-SADSDPAVEEDAQSSHQPSGPGVLAP
C	SEYLVNTVSSIKH---AIVRRTFIPPKSCDVCNNPIWMMGFCEFCQFKFHQRCSFAPLY
Drosophila.	-RLDKFPIRTHIKHQIRKTFSLVFCEGCR-LLFTGFYCSQCNRFRHQRANRVPLM
	*. . *.* . . *: . .
Human.	CVNY-----DQLDLLFVSKFFEHHPPIQEEASLAETAL---TSGSSSPAPASDSIGP
Mouse.	CVDW-----SNIRQLLLF-----PNSTVGDSGV---PAPPSFPMRRMRRESVS
Rat.	CVDW-----SNIRQLLLF-----PNSTASDSGV---PAPPSFPMRRMRRESVS
Arabidopsis.	PTFG-----SSPNFE-AIT-----QGSKIVEDVD---SVVNATLSTRPMHEI
C	CDLLQSVPKNEDLVKELFGIA---S-QVEGPDRSVAEIVLANLAPTSGQSPAATPDSSHP
Drosophila.	CQPFPM-----DSYYQLLLAE-----NPDNGVGFPGR---GTAVRFNM-SSRSRSR
	: :
Human.	QILTSPPSKSIPIPPFRPADEDHRNQFG---QRDRSSAPNVH-INTIEPVNIDD-LI
Mouse.	RMPASSQHRYSTPHAFTFNTSSPSSEGSLS---QRQRSTSTPNVHMVSTTLHVDSRM-IE
Rat.	RMPASSQHRYSTPHAFTFNTSSPSSEGSLS---QRQRSTSTPNVHMVSTTLVDSRM-IE
Arabidopsis.	TFSTIDKPKLLSQTSLLGELGLNIEAHA---FSTVDGFSLDVFDVVDGWSQEETDG-LR
C	DLTSIKRTGGVKRHPMAVSPQNETSQSPSGPYPRDRSSAPNINAINDEATVQHNQRIL
Drosophila.	RCSSSGSSSSKPPSSSSGNHRQGRPPRIS---QDDRSNSAPNVC-INNIRSVTSE--VQ
	: . . : : : :
Human.	RDQGRG-----DGGSTTG
Mouse.	DAIRSHS-----ESASPSA
Rat.	DAIRSHS-----ESASPSA
Arabidopsis.	DALSKEI-----LK
C	DALEAQRLEESRDKTGSLSTQARHRPHFQSGHILSGARMNRLHPLVDCTPLGSNSPSS
Drosophila.	RSLIMQA-----RPPLPHP
	:
Human.	LSATPP-----ASLPGSLTNVKAL-----QKSPGP-----QERKS
Mouse.	LSSSPN-----NLSPTGWSQ-----PKTPVPA-----QERAP
Rat.	LSSSPN-----NLSPTGWSQ-----PKTPVPA-----QERAP
Arabidopsis.	LKDQPG-----SKQKSISF-----FEHDK
C	TCSSPPGGLIGQPTLQSPNVSGSTTSSLVAHLHTLPLTPQSAFPQKISPGFFNRNR
Drosophila.	CTDHSN-----STQASPTST-----LKH-----NRPRAR
	: :
Human.	SSSSEDRNRMKTLGRRDSSDDWEIPDGQITVGQRIGSGSGFTVYKGKW-HGDVAVKMLNV

FIGURE 8A

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FIGURE 8B

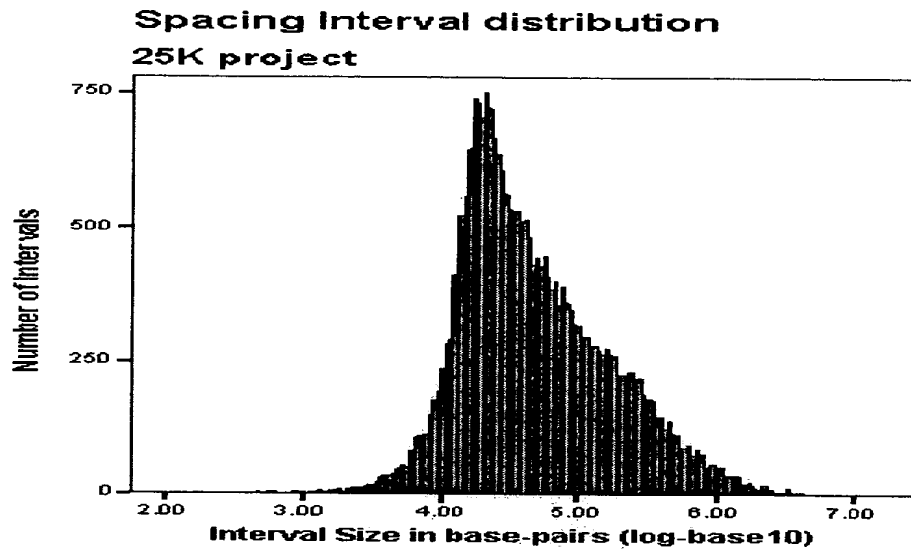


FIGURE 9